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The Hallamshire Cutlery Trades in the late 17th century: a study of the Hearth Tax returns and the records of the Cutlers' Company

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Abstract

This thesis records the research into aspects of the late-17th century Sheffield cutlery trades. The key research resources are the 1672 Ladyday Hearth Tax returns for the parishes of Sheffield, Ecclesfield and Handsworth in the Scarsdale Hundred and the records of apprentices and freedoms of the Cutlers' Company in Hallamshire. These documents, which provide correlating evidence for the numbers and distribution of cutlers and other cutlery craftsmen, have been combined with data from probate inventories, parish records, leases and rentals.

This particular Hearth Tax return is important because it had separate listings of the smithy hearths, because of local opposition to the tax. Although work has been done into the size of the late-17th century Sheffield cutlery industry, it has not previously been possible to show the occupations of the taxpayers. By correlating these two contemporary sets of records, the cutlery craftsmen have been identified and located, revealing that numbers of craftsmen did not own a smithy hearth and that some craft groups generally had multiple hearths. These factors, men with multiple smithy hearths and men without one, all indicate a manufacturing organisation more complex than the simple system of a master involved in all processes, assisted by his journeyman and apprentice.

This research has refined earlier descriptions by locating the craftsmen more accurately and linking their distribution with geographical features, such as the available waterpower, or with the social influence of an existing community dominated by core families. The research presents data, which shows that by 1672, the trades were fragmenting, and many men were probably specialising in one or more manufacturing process. The reconstruction of the communities, based on the Hearth Tax returns, has shown that expansion during the 18th century was often based on the characteristics developed in the previous century and that 19th and 20th century work practices had their roots in the 17th century.

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Contents

Tables and Figures

Introduction

Sheffield is internationally known as a manufacturing centre for cutlery and steel, benefiting from a long tradition of craft skills and technological developments. After the Middle Ages, Sheffield was one of several places in England making common knives in a market dominated by the London trade. Sheffield was geographically remote but had physical advantages in the shape of ironstone, grindstones and rivers providing waterpower. Some of these features were found in Europe at Thiers in France and Sölingen in Germany, where the craftsmen became major competitors of Sheffield cutlers. At the beginning of the 17th century, the town was poised to challenge the position of London and following the establishment of the Cutlers' Company in 1624, the local craftsmen had an organisation to promote the industry. The traditional unit of manufacture was the small workshop with master, apprentice and journeyman, and although Sheffield had many large cutlery firms by the mid-19th century, much of cutlery continued to be made in workshops, which had space for a few craftsmen specialising in a narrow range of processes and products. Some of these workshops survived into the 21st century, presenting an opportunity to see not only manufacturing processes, but also the traditional industrial organisation of sub-contracting, outworking and individual craftsmen working alone. This industrial organisation has developed over centuries, encouraged and re-enforced by the geographical isolation and the conservative role of the Cutlers' Company.

The aim of this research is to use the information in the 1672 Ladyday Hearth Tax returns for the parishes of Sheffield, Ecclesfield and Handsworth as a basis for an increased understanding of the distribution and work practices of the local cutlery trades. This particular tax return is used because it carefully detailed the owners of smithy hearths, the majority of whom were cutlers, scissorsmiths, etc. By 1672, the Cutlers' Company in Hallamshire had been in existence for almost fifty years and

led the opposition to this tax on behalf of its members. The documents generated by both the Hearth Tax and the Cutlers' Company are at the core of this research.

In 1624, the organisation of the cutlery manufacturing trades was formalised by an Act of Parliament, which established the Company of Cutlers in Hallamshire, with powers to control the numbers of apprentices, record the identifying marks of the trained cutlers, scissorsmiths, sickle- and shearsmiths. Sheffield, with the surrounding villages and hamlets, had a long tradition of making cutlery, which involved the forging of blades, grinding an edge on them before assembling and finishing the items. A craftsman's requirements were few: a smithy hearth, a grinding wheel and a workshop, with associated tools. By watching present-day craftsmen producing cutlery by hand, it is possible to appreciate the activities of the late-17th century craftsmen, since knives and scissors have changed little in appearance and function. Probate inventories record the tools and equipment of the early craftsmen and the remaining water-powered sites on Sheffield's rivers and surviving early-19th century buildings in the city provide physical evidence for the types of workplaces available to the craftsmen.

Several published descriptions of late-17th century Sheffield and its industries, notably by David Hey, give the size and distribution of the communities of craftsmen which have been estimated from parish registers, probate records and the Hearth Tax returns. The differences between the urban and rural craftsmen have also been investigated. However, this thesis will refine these descriptions by combining the 1672 Hearth Tax returns with an invaluable contemporary resource – the apprenticeship records of the Cutlers' Company. It will add detailed explanations of manufacturing processes, which have a bearing on the trade organisations of the later 17th century.

This research has been possible because the main sources of information have been entered into computer databases, allowing for the manipulation of large numbers of names, places and occupations. The correlation between the Hearth Tax returns and the apprenticeship records has been high, especially for the smithy hearth owners, resulting in the identification of the craftsmen, locations and the occupations of some other taxpayers. By knowing the specific locations and occupations of a large

proportion of the cutlery craftsmen, it has been possible to reconstruct their communities in 1672. From the starting point of 1672, accounts of the manufacturing communities in the decades before and after that time can be constructed, describing any changes and developments.

Several main themes have been identified and their significance will be discussed in this thesis:

- **Correlation of the Hearth Tax and the Cutlers' Company records.**

Because of the involvement of a large proportion of Sheffield's inhabitants in the cutlery trades, as craftsmen, as parents or masters of apprentices, these two sources complement each other very well. They were used initially to identify smithy owners and the locations of cutlery communities, but the data has revealed a variety of factors which characterise these communities.

- **Family and training links within crafts and communities.**

One aspect of the Sheffield cutlery trades is the area specialisation, i.e. some villages or hamlets tended to concentrate on manufacturing one or two products. It is not fully understood why this should be so, but this research provides evidence for very close training links within communities and their attraction to apprentices. The evidence shows the tendency for families to continue in the same trades over decades, thereby strengthening an area's commitment to a particular trade.

- **The smithy owners.**

Forging blades was the first process in cutlery manufacture and therefore essential to the trade organisation. There has, perhaps, been an assumption that all craftsmen would possess a smithy hearth, and that the numbers of these hearths indicated the size of the trade, but this research has revealed as many identified craftsmen were without a smithy. Moreover, the owners of smithies tended to be freemen, men who 'owned their own work', who could train apprentices and employ journeymen. This suggests a complex trade organisation, of men renting time at another's smithy or specialising in non-forging processes.

- **Apprenticeships and the expansion of the trades**

By controlling the numbers of apprentices entering the trades, the Cutlers' Company amassed records of thousands of indentures. From these, one can trace the numbers of boys being trained in the different crafts and communities and show which trades and communities were static, expanding or declining. The indentures also provide evidence for the emergence of new trades such as forkmaking. The Hearth Tax for 1672 provides a baseline from which to consider each community against the background expansion of the cutlery manufacturing industry, which took place during the two hundred years of the Company's control. This thesis will present the evidence to show which communities could train its own boys, whether they attracted and retained outsiders, or if boys left home for training in other villages.

- **Characteristics of each taxation area**

The parishes of Sheffield and Ecclesfield were divided into townships and quarters for administrative purposes, including the collection of the Hearth Tax. Each area will be discussed separately and to prevent tedious repetition, one or more of these main themes with particular local relevance will be highlighted.

- **The value of computers**

In recent years, historians have turned to computers, appreciating the benefits of databases, word processing and the graphical presentation of data. Although large amounts of repetitive data have been analysed in the past, the computer has expanded the possibilities for analysis, manipulation and presentation of such data. The capabilities of database programmes have offered opportunities for research, which would have been very difficult using simple counting or card indexes. This thesis has benefited from the construction of databases, their manipulation and the presentation of the information in a format which shows the locations of the 1672 taxpayers.

- **Summary**

This thesis will present an analysis of the communities of cutlery makers as represented by the 1672 Hearth Tax and its correlation with the contemporary

records held by the Cutlers' Company. The thesis will demonstrate the close family and training links existing in some communities of craftsmen and will show whether apprentices were attracted to the locality, thus ensuring the survival and expansion of the trades. It will demonstrate that the possession of a smithy hearth was not necessary for all cutlers, etc. and that craftsmen without a smithy hearth could make a living, possibly by renting time at smithies or by specialising in a non-forging process. The emergence of a group of men concentrating on grinding possibly fuelled the expansion of water-powered grinding wheels along the Sheffield rivers in the 18th century.

By revealing the fact that a smithy hearth was not necessary for craftsmen, this research shows that a simple count of smithy hearths in the Hearth Tax returns does not accurately represent the size of Sheffield's cutlery manufacturing community in 1672. Men with and without smithy hearths suggests that a two-tier economic system might have existed. It has emerged that by knowing the ownership, distribution and function of these hearths, a beginning has been made into a greater appreciation of later-17th century cutlery manufacture.

Chapter 1
Sources and Methodology

The aim of this thesis is to use the Hearth Tax returns for Lady Day, 1672, especially the smithy hearths, to reconstruct the communities of metalworkers in Hallamshire, emphasising the production methods and trade organisation. The metalworkers concerned are the cutlers, scissorsmiths, shearsmiths and sicklesmiths who were part of the Cutlers' Company in Hallamshire, which was established in 1624. Reference will be made to other metalworkers who joined the Company later in the century - the filesmiths, scythesmiths and awlbladesmiths - and to the nailmakers, who never joined the Company. These metalworking craftsmen lived in Sheffield town and scattered in the surrounding villages and hamlets of Hallamshire. Their distribution was not random, as some places showed a marked preference for particular crafts. Historical sources will show the distribution of smithy hearths, the different crafts and the expansion of the trades. The potential of the documentary sources is enhanced by their manipulation using computer databases. Below is a critical list of the major sources.

Primary Sources, in original and published form

The principal sources for this research are the Hearth Tax Returns for Lady Day, 1672 and the records of the Cutlers' Company. Intended as a tax on domestic hearths, the Hearth Tax also covered certain industrial and commercial hearths. In Hallamshire, the cutlers' smithy hearths were subject to the tax, which was fiercely opposed and led to these hearths being carefully listed. One copy of the 1672 Hearth

Tax returns for Hallamshire, which has been transcribed and published, is held at Wakefield Library[1]. A computer database has been created from this data.

The contemporary records of the Cutlers' Company apprenticeships and freedoms are particularly relevant. Boys wishing to become cutlers, scissorsmiths or sicklesmiths were required to attend at the Cutlers' Hall in order to register their apprenticeship to a master craftsman. On completion of their training, they became part of the Cutlers' Company, some men choosing to register their freedom and an identifying mark. The indenture documents and freedom certificates rarely survive but the Clerks to the Cutlers' Company kept books in which summaries of these occasions were entered. This data was collated and the published version has been used to assemble a computer database.[2]

These two principal sources, the Hearth Tax returns and the Cutlers' Company records, will be discussed at greater length in Chapter Two. The published Sheffield parish registers, summaries of charters, deeds and leases have also been used and these sources are listed in the Bibliography. Probate inventories for Sheffield and those for Derbyshire add details to the basic information.

Hearth Tax Returns, Lady Day 1672

The surviving Hearth Tax returns are a national series of documents from the 1660s to the 1680s. They provide evidence for historians who are interested in the social order, demography or surnames and in the comparisons of population size, wealth and the growth of communities. The Public Record Office holds the Hearth Tax returns for most of the country, [3] though some copies are held locally; Wakefield Library has a copy of the 1672 returns for the Strafforth and Tickhill Wapentake, which included Sheffield parish. The Wakefield copy was transcribed, edited and published as part of research into the origin of surnames and it forms the basis for this research. The returns give the names of owners and occupiers with the numbers of their domestic and smithy hearths. Additional details were given such as whether a

chimney was newly built, had been demolished or whether the occupier was exempt on grounds of poverty. The returns for Lady Day, 1672 are of importance because it lists the smithy hearths, which were considered taxable.

Hearth Tax Returns for adjacent Derbyshire Parishes

Although cutlers and other metalworkers lived in the adjacent parishes of Norton and Eckington, their smithy hearths were not listed in the tax returns. However, a list of smithy hearth owners who refused to pay has survived,[4] and published Hearth Tax returns of these areas have been consulted.[5]

Records of the Cutlers' Company

The Cutlers' Company was an important local institution from the early 17th century and had a bearing on the lives of most of the local population. Their records relating to apprenticeships, freedoms and mark registration survive from 1614, shortly before the incorporation of the Company in 1624 and continue until 1878, with only a seven-year break in 1814. The Cutlers' Company is still in existence, though it no longer controls apprenticeships or the registration of local cutlers' marks. Their archives are held by the Company at the Cutlers' Hall, Sheffield and the following groups of relevant documents have been consulted:

- C6/1 The Great Book, with apprenticeship indentures, 1618-1655, freedom records, 1626-1655 and the record of marks, 1624-1679
- C6/2 Apprenticeship indentures, 1660-1717, and freedom records, 1662-1718
- D1/1 Accounts of the Masters Cutler, 1624-1790
- D19/1-5 Records of the Storehouse, 1680-1685
- L1/1/1 The Great Mark Book, a record of marks, 1679-1791
- S1/1-3 Covenants of the Scissorsmiths, 1680

These records are invaluable because so many people in Hallamshire were connected, directly and indirectly, with the cutlery trades. These records show apprentices

moving into and around Hallamshire; the locations of specific types of craftsmen and the expansion of the workforce. The lists of apprentices also give details of the boys' parents, providing an insight into other occupations. These lists have been published and are the foundation for the database used in conjunction with the Hearth Tax returns. Other Company documents add flesh to this framework, detailing craftsmen's interests, concerns and responses to its regulations. Unfortunately, one set of documents is missing (if they ever existed), that is, the minutes of the various Company meetings.

The Association Oath Roll, 1696

In Hallamshire, almost 750 cutlers, scissorsmiths, shearsmiths, scythesmiths and filesmiths took the Oath of Allegiance to King William III. The roll for the Sheffield cutlers is held with others at the Public Record Office.[6] This has been useful in assessing the relative size of the workforce, but since it was only compulsory for holders of office, it is impossible to say what proportion of men actually signed. Again, a database of names has been assembled from this material.

Rentals of the Earl of Shrewsbury, 1581

As Lords of the Manor of Hallamshire, the Earls of Shrewsbury were the owners of much of the land and property in Sheffield and their rentals identify properties and lease arrangements. A transcript of the first volume of half-yearly rentals, to Martinmas 1581, was published by Sheffield City Libraries.[7] This has been used for details of smithies and early water-powered sites. Unfortunately, many of the records relating to the Manor of Hallamshire were lost in 1761 when fire destroyed Worksop Manor, another of the Shrewsbury's properties.

Probate Inventories

Probate inventories are invaluable in understanding the lives of people in the 16th and 17th centuries. Hallamshire's probate records survive from the 1680s to the mid-18th century and are at the Borthwick Institute in York, while Lichfield Record Office has the wills and inventories for the neighbouring parishes of Norton and Eckington. Dating from the mid-16th century, they are more numerous and photocopies of the Derbyshire probate records are available at Sheffield Archives.

Secondary Sources - published books and papers

The history of the Sheffield cutlery industry has long fascinated local historians and antiquarians. This interest has resulted in several high-quality publications from which relevant data has been drawn. Publications by 19th century local historians include *Hallamshire*, a general history written by the Reverend Joseph Hunter in 1829, which was revised by the Reverend Alfred Gatty in 1869. The emphasis in this and other early histories of the area was on 'the great and the good' and the cutlery trades were considered largely in terms of the Cutlers' Company and its civic role. Mary Walton's *Sheffield - Its Story and Achievement* (1968) is a more general history but which necessarily summarises the cutlery industry.

History of the Company of Cutlers in Hallamshire (1905, 1906)

The most important publication by the earlier historians was the two-volume history by Robert Eadon Leader. At the end of the 19th century, he must have had unlimited access to the Cutlers' Company records in order to produce his comprehensive account of the Company from its inception in 1624. Although there is an understandable tendency to deal with the organisational details and the personalities of the officers of the Company, rather than the craftsmen and processes of

manufacture, it is nonetheless invaluable and comprehensive. Volume One covers the history of the Company, with emphasis on the Feasts and the powerful people associated with the Company. Volume Two consists largely of printed lists of craftsmen; those present at the Company's incorporation in 1624; those who contributed to various undertakings and finally and most importantly, the apprentices and freemen of the Company from 1624 to the date of publication in 1906. Leader's sources for this part of Volume Two were the Company's books (C6/1 and C6/2) summarising the apprenticeships and freedoms and he seems to have used the mark books to some degree. Exactly how he, or others, extracted the material and arranged it in alphabetical order of apprentices' surnames is not known. One assumes it was done by several people compiling a card index. Despite errors in transcription and in printing, it remains a remarkable piece of work and makes a very important resource accessible to local historians.

In 1997, the Cutlers' Company celebrated the 700 years' anniversary of the earliest surviving documentary reference to a Sheffield cutler, which was in a tax list of 1297. A new publication, *Mesters to Masters* edited by Clyde Binfield and David Hey, described aspects of the Company's work in a series of essays. The first two chapters dealt with the establishment of the Company and the apprentices and freemen. In Chapter Four, Sidney Pollard examined the commercial role of the Company and his cogent description of the Storehouse enterprise of the 1680s is relevant to this study.[8]

The Cutlery Trades (1913)

The earliest work to detail the actual processes of cutlery manufacture and work practices was written by G.I.H. Lloyd in 1913. This book provides an important insight into Sheffield's industry at the beginning of its long decline. Lloyd was able to observe processes common in the 19th century and the trade organisation of the independent craftsmen, who had a complex system of sub-contracting to outworkers. These outworkers and independent craftsmen continued to exist alongside massive firms such as George Wostenholm and Joseph Rodgers. A later publication, which

provides a careful description of work practices, is *The Story of Cutlery* (1953) by J. Himsworth. This has the advantage of good-quality photographs of processes and products. By focusing on the economics of the cutlery trades, Sidney Pollard's articles and especially his book *A History of Labour in Sheffield* (1959) have value in explaining the Sheffield trades in a wider context.

Books by David Hey

Since the 1970s, David Hey has produced a number of books on the history of Sheffield metalworking trades. His books are now considered the standard reference works, especially for the later 17th and 18th centuries. *The Fiery Blades of Hallamshire* (1991) which deals with Sheffield and its locality from 1660 to 1740, is of particular relevance. Giving a background history to the period, Hey then describes the population, its industries, society and communications. Another significant contribution is *The Rural Metalworkers of the Sheffield Region* (1972), which considers the metalworkers in and around Sheffield, especially the nailmakers and craftsmen in the Ecclesfield parish, who often had a dual occupation linked with agriculture. Other publications by David Hey have been of a more general nature, giving an outline of the history of the cutlery trades. Written in honour of Joan Thirsk, the essay 'The origins and early growth of the Hallamshire cutlery and allied trades' is noteworthy.[9] In this, Hey considered the geographic, topographic and social aspects, which contributed to the rise of the Sheffield trades. His details of the late-17th century society, in which the cutlers lived and worked, have been incorporated into this thesis.

Water-Powered Sites on the Sheffield Rivers (1989)

This book incorporates surveys of the archaeological remains and documentary sources relating to the water-powered sites, including grinding wheels and forges, and is an important contribution to the history of the Sheffield trades. The research was

led by David Crossley at the University of Sheffield resulting in a summary of the history of each site and reference details of documents are given.[10] The two most important sources for this book are the rentals of the Dukes of Norfolk and the Fairbank family archive, held at Sheffield Archives. The Norfolk family, successors to the Earls of Shrewsbury, owned the land on which many of the sites were built and the Fairbank family were 18th and 19th century surveyors. Four generations of the Fairbank family of surveyors (1750-1848) were involved in the building, extending and improvement of many of the sites, as well as in negotiations following disputes between adjacent site owners. This book has provided the information on which the maps of Sheffield's rivers have been constructed. (Appendix B)

Cutlery and Manufacturers

Several books and pamphlets have been produced by museums and collectors describing the cutlery produced in Sheffield and elsewhere. These books are descriptive of the types of knives, etc. and generally deal with the subject on a chronological basis, describing stylistic features, the materials used and the quality of manufacture. The most recent book of this type is *Cutlery for the Table* (1999) by Simon Moore. Although it is primarily intended for collectors and many of its illustrations show London-made knives, it provides a good record of the stylistic development of table cutlery. Another such book is *The Sheffield Knife Book, a History and Collectors' Guide* (1996), by Geoffrey Tweedale. Aimed at the collector, it summarises the history of some Sheffield manufacturers. Of necessity, these firms are mainly those in the 19th and 20th centuries, who have left sufficient records and examples of their workmanship. Earlier manufacturers and craftsmen are dealt with more generally.

Important information about the manufacturing processes of cutlery is found in two types of publications arising from the trades themselves - 'statements' and trade catalogues. 'Statements' were price lists for the wages to be paid for the individual

are 19th century documents, they cover every variation in production processes. They can be used to reconstruct work practices and with the trade catalogues, provide a more realistic assessment of the range of cutlery being made, than the surviving examples in museums and collections.[11]

The Hearth Tax Returns

The South Yorkshire Hearth Tax returns for Lady Day, 1672, edited by David Hey, provide the basis for this research. The Hearth Tax returns are a national series of documents and because the data was collected in a uniform manner, comparisons in time and space can be made. Many areas have produced analyses of their local Hearth Tax returns and although these are not particularly relevant here, some have excellent introductions, which clearly explain the mechanics of the process in clear detail. Of note is the introduction to the Nottinghamshire Hearth Tax by JV Beckett (1988) [12] and DG Edwards' introduction to the Derbyshire Hearth Tax Assessments (1982).[13] Both books consider the value of the data for understanding their communities in the second half of the 17th century. A more general view of the Hearth Tax is expressed in a series of essays in *Surveying the People* edited by Kevin Schürer and Tom Arkell (1992). This gives a critical assessment of the Hearth Tax data and considers other later 17th century documents such as the Compton Census and the Poll Tax, making an argument for their use in the reconstruction of families and local populations. These are valuable to this research in giving a summary of current thoughts on the Hearth Tax data.

Papers

Several useful papers have been published on particular aspects of the cutlery industry in Sheffield. The *Transactions of the Hunter Archaeological Society* has provided a forum for such papers. S.O. Addy was an early contributor, who published a paper in 1925 on 'Medieval English Cutlery', combining the documentary evidence for early

Sheffield industry with descriptions of types of knives.[14] This is a rather uncritical description of the documentary evidence for the history of the cutlery trades and contrasts with the chapter by David Hey in the book of essays honouring Joan Thirsk.

Two papers on specific aspects of the cutlery trades are particularly relevant to this study. These are by E.J. Buckatzsch and appeared in *Economic History Review*. 'Places of Origin of a Group of Immigrants into Sheffield, 1624-1799' (1950) looks at the background of the apprentices to the cutlery trades and is one of the few quantitative analyses to use the apprenticeship and freedom records of the Cutlers' Company.[15] Achieved without the assistance of a computer, this impressive piece of work considered the influx of apprentices. Buckatzsch examined the distances they had travelled, but is not clear where he placed the 'centre of the cutlery district'. Nor is it clear how he dealt with the common place names such as 'Aston' or 'Hilltop', but he did acknowledge the difficulties caused by the incompleteness of the data. His paper is a milestone in the analysis of the Cutlers' Company records, as opposed to general descriptions of the development of the local industry. Buckatzsch's other relevant paper quantified the occupations of men from the late-17th and early-18th century parish registers, drawing conclusions about the social and occupational structure of Sheffield.[16]

Two recent papers on the Eckington sicklesmiths have been written by Kay Battye, providing useful summaries of the data, since few papers have detailed analyses of the probate records relating to the Sheffield trades.[17]

The Hawley Collection and other museum collections

The Hawley Tool Collection at Sheffield University is owned by a charitable Trust. Consisting of Sheffield-manufactured cutlery and edge tools from the late 18th

century onwards, the Collection is of especial significance for the part-finished items and the tools used in their manufacture. The Collection also includes trade catalogues, 'statements', photographs and ephemera. Although the majority of the Collection dates from the mid-19th century onwards, it provides evidence for cutlery manufacture by craftsmen, the specialisation of work practices and the types of buildings and equipment used. The Collection is an essential source of material complementing the documentary sources outlined above. Other collections of knives, tools and documents are held by the Sheffield City museums, the Sheffield Assay Office and the Cutlers' Company. They have provided examples of the levels of craftsmanship achieved by Sheffield cutlers.

Summary

A key feature of this research is the combination of documentary evidence with artefacts, in order to achieve an understanding of 17th century work practices and how they might have influenced the development of the Sheffield trades. The principal sources summarised above have been used for the identification and location of the craftsmen in the later 17th century. Research by historians and collectors on different aspects of Sheffield's manufacturing history has been made available in published form, detailing the social context of the industry, geographical features of the locality, the manufactured items and the great cutlery firms. However, very little high-quality material has been written about the work practices and manufacturing processes of the smaller firms and the individual craftsmen who were called the 'little mesters'. Although some of the evidence comes from 19th century sources, it is believed that this research gives an insight into manufacturing practices and techniques of the 17th century and the first to combine documentary material and information technology with an unlimited access to a collection of Sheffield manufactured cutlery and tools, especially the part-made items.

Methodology

The Apprenticeships and Freedoms records

In 1905 and 1906, R.E. Leader published a two-volume history of the Cutlers' Company. The first volume dealt with the Company's general history and the second listed approximately 24,000 names of apprentices and freemen in alphabetical order. This monumental piece of work was undervalued at the time as far fewer copies of Volume Two were sold. However, this volume is now appreciated as one of the core reference works in the study of the history of cutlery in Sheffield, even though analysis of the apprentices' background, names of their masters, crafts and dates is not easy in this printed form.

Brittlebanck Edward, son of Hugh, Thorpe, h., dec.; to Ratcliffe John, sc.; 9, 1646, Mark 1656.
Brittlebank George, son of George, Ecclesall, h.; to Dickenson Samuel, Ecclesall; 7, 1765.
" " s. of Abraham, Litt. Shefl., malstr.; to (1) Webster Benj., sc., 7, 1789; (2) Robinson Saml., sc., 1792
" John, son of William, Gate house, h.; to Hawkerd Peter, cutler; 8, 1692.
" Joseph, son of William, Eyam, m.; to Grant Joseph, k.; 7, 1800.
" Richard, (1) s. of Edwd., sc., F. 1685. (2) s. of Richard, sc., F. 1725.
" Samuel, son of George, Ecclsl., h.; to (1) Kent Richard, junr., 7, 1761; (2) Carrier John, cgr., 3-1, 1765.
" Thomas, son of Joseph, Eyam, miner; to Drabble Jonathan, cutler; 7, 1785.
Broad George, son of Edward, labourer; to Sayles William, ra.; 7, 1792.
Broadbent Dennis, son of Nathaniel; to Oaks John, sc.; Freedom 1766.
Brodebent George, son of Robert, cutler, dec.; to Father, cutler; Freedom 1646.
Broadbent " son of Nicholas, Dawroyd, slater; to Parkin Joseph, Southey, cutler; 8, 1667.
" " s. of Robert, Dawroyd, slater; to (1) Kay Thos., c., 8, 1691; (2) Wynter Luke, c., 3, 1696.
" " son of Jabez; to Father, cutler; Freedom 1709.
" Jabez; son of George; to Father, cutler; Freedom 1681.
" James, son of Joseph, Wortley, h.; to Cawood Robt., Ecclesfield, fi.; 7-2, 1783, Freedom 1804.
" John, (1) to Hall Nathaniel, c., 2-2, 1749. (2) s. of Wm., to Father, c., Freedom 1780.
" Joseph, son of Nicholas, Dawroyd, slater; to Woodhouse Anthony, sc.; 8, 1670, Freedom 1678.
" " son of Nicholas; to Father, scissorsmith; Freedom 1728.
" Joshua, son of Robert (or Joshua), late of S., sc.; to Wilkinson John, c.; 9, 1690, F. 1723.
Brodebent Nicholas, son of Joseph, late of S., sc.; to Ward Thomas, sc.; 8-5, 1693, Freedom 1701.
" Robert, son of Thomas, Bridgehouses, h.; to Machon George, Pitsmoor, sc.; 8, 1654, F. 1662.
Broadbent Robert, s. of Robt., sc., dec.; to (1) Bower Thos., c., 4-3, 1685; (2) Twigg Robt., sc., 2-6, 1687, F. 1689.
" " s. of Joshua, c., dec.; to (1) Ainsworth Wm., c., 8, 1736; (2) Hall John, Lydgate, c., F. 1750.
" Samuel, son of Dionysius, Attercliffe, weaver; to Allein Rich., Attercliffe, c.; 9-6, 1715, F. 1725.
" Thomas, son of Joseph; to Burley Jos., c.; Freedom 1687.
" William, son of Joshua, c.; to Taylor Robert, c.; 6-7, 1740.
" " (1) F. 1765. (2) s. of John, k., dec., to Turner Sam, k., 7, 1797.

Figure 1.1 Example of Leader's listings of apprentices and freemen, from Vol.II

Analysis of this data has been undertaken in the past, involving tedious reading and counting of the printed lists, notably by Buckatszch who looked at the movement of people into Hallamshire. In 1991, David Hey received Leverhulme funding for work on the distribution of surnames and had Leader's lists entered into a computer database. The information was transferred to a DOS-based, non-relational database package called 'Rapidfile', which has proved quite capable of manipulating the data in a variety of ways. Subsequently, the original database has been refined and used for several pieces of research and has now been augmented with the inclusion of the records of freemen's marks.[18]

The information in the apprenticeships and freedoms records is eminently suitable for conversion into a computer database format. Figures 1.1 and 1.2 show that the data is easier to read if the individual pieces of information in Leader's lists are separated into the fields of a database.

name	parent	occupation	origin	no	master	name	place	craft	app	free	mark
Edward	Hugh	husbandman	Thorpe		Ratcliffe	John	-	scissorsmith	1646	1656	cross above 'EB'
George	George	husbandman	Ecclesall		Dickenson	Samuel	Ecclesall	[cutler]	1765	-	
George	Abraham	maltster	Little Sheffield	1	Webster	Benjamin	-	scissorsmith	1789	-	
				2	Robinson	Samuel	-	scissorsmith	1792	-	
John	William	husbandman	Gate house		Hawkerd	Peter	-	cutler	1692	-	
Joseph	William	miner	Eyam		Grant	Joseph	-	knifemaker	1800	-	
Richard	Edward	scissorsmith	-		-	-	-	-	-	1685	'Z' above 'N'
Richard	Richard	scissorsmith	-		-	-	-	-	-	1725	shoe
Samuel	George	husbandman	Ecclesall	1	Kent jun	Richard	-	[cutler]	1761	-	
				2	Carrier	John	-	cutlergrinder	1765	-	
Thomas	Joseph	miner	Eyam		Drabble	Jonathan	-	cutler	1785	-	

Figure 1.2 Sample printout of the entries from the apprenticeships and freedoms database relating to Brittlebank apprentices. The surname field of the apprentices is not shown here.

Although clarity of presentation is valuable, it is the manipulation of the data, which is vital. Fields can be sorted into chronological or alphabetical order, calculations can

be made and records can be selected on specific criteria. These are standard features of databases, which have now become essential in any historical research involving large amounts of uniform data. By selecting data and re-arranging the fields, new insights have been made into the Sheffield cutlery trades and the database has released all the potential of the work done by Leader a hundred years ago. One early outcome of this work was to select all the apprenticeships prior to 1700 and sort them into alphabetical order of masters' surnames.[19]

The list of apprenticeships and freedoms from the 1620s to the date of publication in 1906 has resulted in a database of over 31,000 records. It is from this database that the quantitative data in this thesis has been drawn. It is acknowledged that, although the data is remarkable, errors will have crept into the various transcriptions by Leader's team, Leader's printers and by the typist entering the material onto the database. The data has been used as it appears in the database and when any 'unusual' results appear, the information is checked initially with Leader's publication and ultimately with the original indenture and freedoms records.

The database has been used to prepare the material relating to the distribution and expansion of the cutlery trades and has been cross-referenced with the people listed in the Hearth tax returns. Because the cutlery trades in Sheffield were so widespread, almost everyone was involved, either as craftsmen or as parents of the apprentices. In historical research, such close correlation between two series of contemporary documents is not often possible.

Analysis of the apprenticeships and freedoms data

Analysis of the data is possible in many ways, but the following figures show the numbers of men involved in the cutlery trades in the 17th century. It is necessary to understand the information, which might or might not be included in the records for apprentices and freemen, resulting in four groups of people:

- boys with both an apprenticeship date and freedom date
- boys with apprenticeship date but no freedom date
- men with a freedom date but without an apprenticeship date
- sons of freemen who were not registered for apprenticeships or freedoms. The number of these unrecorded craftsmen cannot be estimated.

The graphs relate to apprentices indentured with the Cutlers' Company in the 17th century and Figures 1.3 and 1.4 demonstrate the value of the records and some of the problems. Many of these boys were 'turned over' to a second, third or even fourth master for various reasons, but in these graphs, only the date of indenture to the first master is used.

a) Boys apprenticed in the decades before 1679

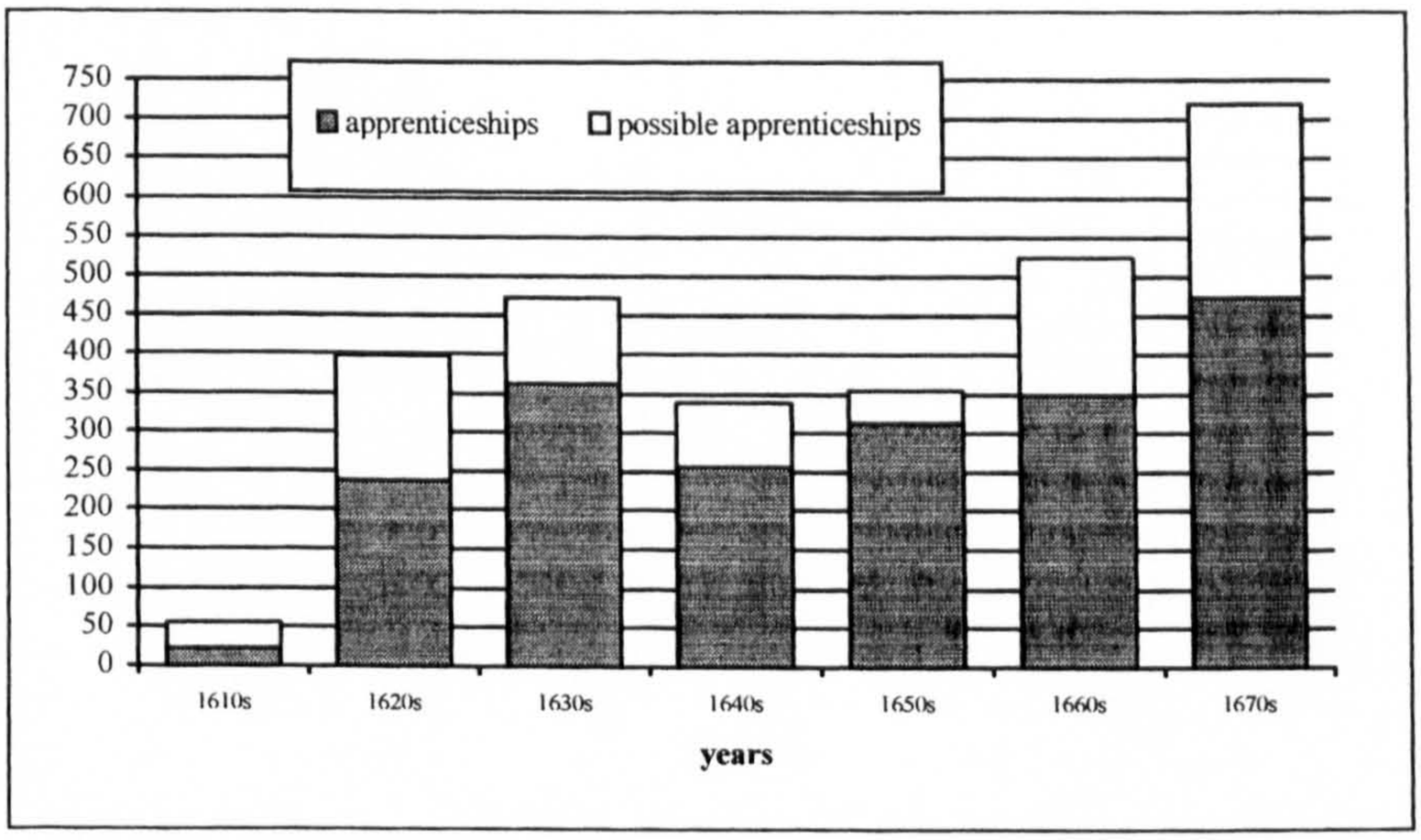

Figure 1.3 The number of apprenticeships and 'possible apprenticeships' from 1614 to 1679.

For men with only a freedom date, it is possible to estimate the apprenticeship date by using the database functions. The start date for training can be calculated by

subtracting a notional seven-year apprenticeship from the freedom date. This is a very rough estimation, since apprenticeships could be as long as twelve years and is especially unreliable for the early decades when established craftsmen were registering their freedoms with the new Company. In addition, some men appeared to wait several years before becoming freemen, often when their father or master died. The numbers in Figure 1.3 refer to sets of boys, those for whom there is an actual apprenticeship date and those with a calculated possible apprenticeship date.

b) Men with freedoms and 'possible freedoms'

Men often appear in the records only when they took out their freedom with no apprenticeship date or background details. Some of these men were the sons of freemen who were not obliged to register their sons' apprenticeships, but some were undoubtedly examples of poor bookkeeping, especially later in the 1720s.

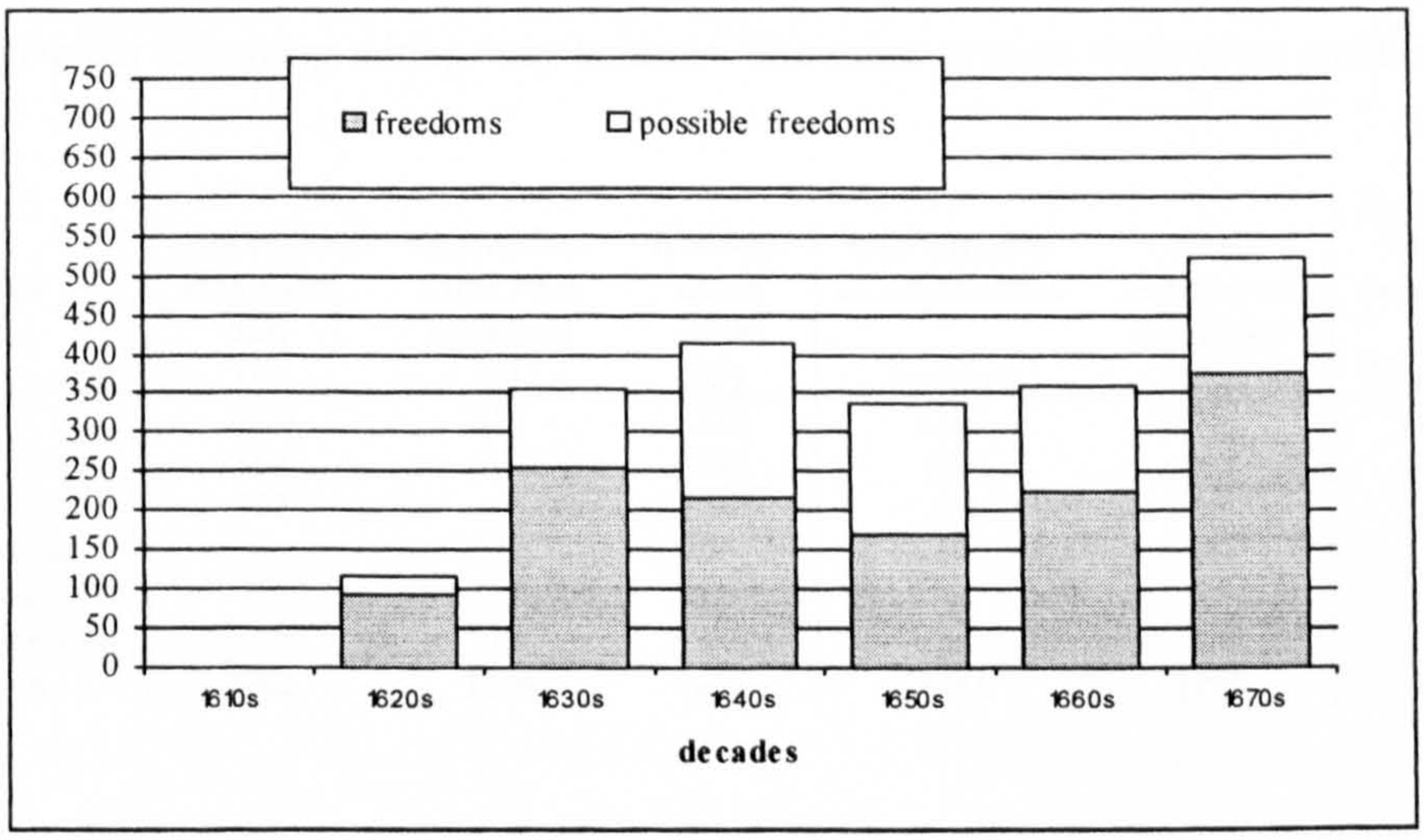

Figure 1.4 The number of freedoms and 'possible freedoms' from 1614 to 1672.

The graph in Figure 1.4 shows the numbers of freedoms and for the men who did not become freemen; the 'possible freedom' date refers to the end of notional seven-year

apprenticeships as the moment when they would have entered the workforce. The proportion of apprentices who chose to became freemen and those who did not varied over time and in different crafts. This exercise demonstrates that although there is a wealth of information, there are important shortcomings, especially in attempts to quantify the communities of craftsmen. In the two graphs, the proportions of 'possible' apprenticeships and 'possible' freedoms show the scale of under-estimation if we simply rely on the given apprenticeship and freedom dates. However, the graphs do show a gradual increase in the numbers of apprentices being trained.

Having a database to manipulate the information means that it is possible to ask quite complex questions, as demonstrated below, in Table 1.1. The data includes the apprenticeships and freedoms to 1700 in order to include the filesmiths, scythesmiths and awlbladesmiths, who joined the Cutlers' Company in the 1670s and 1680s. The figures show that the cutlers made up by far the largest craft group, with the scissorsmiths following a long way behind. The other groups were even smaller.

craft	apprentice-ship dates only (a)	apprentice-ships with freedoms (b)	freedom dates only (c)	total number of apprentices (a+b+c)	total number of freedoms (b+c)	%age number of freedoms
cutlers	2214	917	326	3131	1243	40%
scissorsmiths	564	261	143	825	404	49%
sicklesmiths	107	47	36	154	83	54%
scythesmiths	2	1	35	3	36	-
filesmiths	87	20	65	107	85	-
awlbladesmiths	28	8	26	36	34	-
totals	**3002**	**1254**	**631**	**4256**	**1885**	**44%**

Table 1.1 Summary figures for the numbers of apprentices and freemen in the different craft groupings in Hallamshire, 1624-1700

The proportion of apprentices who took out their freedoms is of interest here. Since it was not obligatory and did not require any particular standard of craftsmanship, an apprentice could apply for his freedom at the minimum age of twenty-one, pay 3s.4d.

and register a mark. It seems that, overall, about 45% of the apprentices in 17th century Sheffield did so (but it must be remembered there were unregistered sons of freemen, who did not apply for freedoms). The proportion of freemen cutlers appear slightly below the general average, while there were slightly more scissorsmiths and shearsmiths. The percentages for freemen scythesmiths, filesmiths and awlbladesmiths have not been given because the numbers are distorted by the established craftsmen, who joined the Company as freemen in the 1670s and 1680s. Whether or not a man became a freeman, i.e. who owned his own work and was technically his own master, will be shown to be an important issue.

Analysis of the Hearth Tax Returns

Transcripts of the entries in the Hallamshire Hearth Tax returns for Lady Day, 1672 were published in book form and for this research; the information was entered into a 'Rapidfile' database. The entries in the returns are not numbered, but in order to identify locations and sequences of entries, it was necessary to give them a number when they were typed into the database. Additional information from the apprenticeships database was included, thus identifying craftsmen and the smithy owners in the Heath Tax returns.

With this additional material in the Hearth Tax database, it was necessary to consider the presentation of the data. Graphs give an easily appreciated interpretation of the data. By using colour-coded bar graphs for the hearths and smithies in each area, it became clear where groups of craftsmen were living and how many craftsmen did or did not have their own smithy hearth.

The 1672 Hearth Tax data represents a clear starting point from which to investigate the distribution of craftsmen. By combining the details from the Hearth Tax returns with information about the origin of apprentices and the masters' workplace, descriptions of the cutlery trades can be much more specific.

Approaches to other source materials

Probate records and parish registers have been searched to add details to the main sources of information. They identify people, giving an insight into their work practices through their possessions and show the links between families and craft groups. Museum artefacts, especially those in the Hawley Collection, have been invaluable in clarifying probable work practices and the processes of manufacture in 17th century.

Reconstruction of communities

The Hearth Tax returns for Lady Day, 1672 give a tantalising glimpse of the Hallamshire communities. By cross-referencing them with the information in the Cutlers' Company records, the locations of groups of metalworking craftsmen have been identified. The manufacturing villages and hamlets can be pinpointed and the returns give the minimum number of the men involved in the cutlery crafts.

Conclusion

Sheffield is unique in having such extensive and accessible records for the history of its primary industry. The Hearth Tax returns of Lady Day, 1672, listing the smithy hearths in such detail, are crucial to our understanding of the Sheffield cutlery trades. The Cutlers' Company records survive in sufficient quantity and quality, and provide the correlating data necessary to reconstruct the communities of craftsmen in the later 17th century. Through the power of the computer databases, the Cutlers' Company records have been combined with the Hearth Tax data for research purposes, which in the past, would have been too tedious and time-consuming to undertake. The manipulation of the data has revealed several important aspects of the cutlery trades in the later 17th century, which will be discussed in subsequent chapters.

Conventions

In the late 17th century, weights, measurement and values were given in pre-decimal units. It is proposed that the pre-decimal units will be used throughout and a conversion table is given in Appendix A. There are several phrases and words, which have a specific meaning in the context of this thesis and an explanation is given below. Other specialist terms used to describe tools and processes are given in the Glossary.

Apprentices and Apprenticeships

Apprentices were boys who were indentured to a master. Some boys had up to four different masters, perhaps in different communities and sometimes even in different trades. For this reason, the numbers of apprenticeships will be greater than the number of apprentices. In Table 1.1, the total number of apprenticeships prior to 1700 is 4,256, but 608 boys had more than one master, accounting for 1,271 apprenticeships. This gives an 'excess' of 663 apprenticeships over apprentices, so that out of 4,256 apprenticeships, there were only 3,593 apprentices. Therefore, in order to distinguish between the number of apprentices and the numbers of masters, the term 'apprenticeship' is used when the activity of masters is under consideration.

Freedoms and Marks

On completion of an apprenticeship and on payment of a fee, a man was entitled to register his 'freedom', together with his identifying 'mark'. The Master Cutlers' accounts and the freedom books record the names of these men and the mark books list the craftsmen's names with their marks. Between 1614 and 1624, only marks were registered and so the assumed dates for the completion of training are given as M1619, etc. After 1624, the freedoms were recorded and dates could then be given as F1632. Many of the men who were established craftsmen at the time of incorporation seem to have been recorded only when they registered their mark and so the 'M' dates continued through the 1620s and 1630s.

Freemen and Non-freemen

Although the accounts and records of the Cutlers' Company use the term 'Freedom', the word 'Freeman' was not in common usage by the Company until the late eighteenth century. The 1624 Act does not mention freemen but refers to craftsmen who 'owned their own work' and the early byelaws talk only of 'masters'.[20] The man who paid his fee for recording his freedom and mark, had the practical advantages of being able to take on apprentices and use his mark to identify his work, which he could then sell for himself. The Company described such a man as one 'who owned his own work'. All men who had completed their training with a master were considered by the Company as 'free', even those who did not register their 'freedom'. This later gave rise to confusing terms such as 'journeyman freemen'. However, in the context of this thesis, the term 'freeman' will be used for a man

- 'who owns his own work'
- who has registered his freedom and his mark
- who is a master of apprentices
- who sells his own finished goods.

The trained craftsman who had no identifying mark and no freedom recorded, who was unable to train apprentices and who must always have made goods for another man, will be referred to as a 'non-freeman'.

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[4] Public Record Office. E179/94/394, Scarsdale Hearth Tax, 1672.

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[18] Unwin, J., 'Apprenticeships and Freedoms : the Computer Analysis of the Records of the Cutlers' Company in Sheffield', *The Local Historian*, 25, 4 (1995) 194-208

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Chapter 2
The Cutlers' Company Records and the Hearth Tax Returns, 1672

The aim of the thesis is to identify the locations and reconstruct the communities of metalworking craftsmen in Hallamshire. The sources of information, both original and published, were summarised in the previous chapter, together with the descriptions of the methods of analysis and manipulation of the data. This chapter will elaborate on the core material of the Cutlers' Company records of apprenticeships and freedoms and the 1672 Ladyday Hearth Tax returns for Hallamshire. The correlation of these sources will therefore concentrate on the following points:

- the identification of cutlery craftsmen and the owners of smithy hearths
- an estimation of under-recording of craftsmen in the Hearth Tax returns
- the identification of other taxpayers, their locations and occupations

The Company of Cutlers in Hallamshire – its organisation

Background

Knives have been made in Sheffield since at least the Middle Ages. The earliest surviving reference to the trade is of Robertus le Cotelar who was listed in the 1297

lay subsidy and a few cutlers were later mentioned in the Poll Tax returns of 1379.[1] Fuller documentary evidence for the organisation of the cutlery trades and the scale of operation begins in the middle of the 16th century when sufficient records survive to suggest that cutlers formed a large proportion of the working population. These records come from manorial courts of the Lords of Hallamshire, which established the Cutlers' Juries to oversee the organisation of the trade. The mid-16th century ordinances drawn up by this court were later incorporated into the rules of the Cutlers' Company and were principally concerned with work practices, apprenticeships and the registration of identifying marks. A few cutlers' marks were entered in the manorial court records in the mid-16th century [2] and 182 cutlers' marks were later registered by the Cutlers' Jury in 1614.

The powerful Earls of Shrewsbury, as Lords of the Manor, had taken an active interest in the cutlery and metalworking trades but on the death of Gilbert in 1616, the manor passed to non-resident lords. Bereft of a system for registering craftsmen's marks and with no control over the number of apprentices, the cutlers petitioned Parliament for an Act of Incorporation. Strongly opposed by the London cutlers' guild, the Cutlers' Company of Hallamshire took over the responsibility for the industry in 1624. The Cutlers' Company had to bind apprentices, admit freemen, register their marks and administer regulations, which were aimed at ensuring the quality of workmanship.

In 1624, the Cutlers' Company claimed jurisdiction over the working lives of cutlers, scissorsmiths and sickle- and shearsmiths in Hallamshire 'and six miles round', which effectively included the parishes of Norton and Eckington in Derbyshire. By the end of the 17th century, awlbladesmiths, filesmiths and scythesmiths had joined the Company, and by the late 18th century, forkmakers and razormakers were considered separate craft groups when they registered their apprentices with the Company. These two groups of craftsmen evolved from the cutlers who had probably been making these items since at least the end of the 17th century.

The craftsmen and the area of control

The parishes of Sheffield, Ecclesfield and Handsworth were at the core of the Company's control. The craftsmen who were initially included in the Company were the cutlers (the makers of knives), the scissorsmiths, the shearsmiths and the sicklesmiths. In the 1670s and 1680s, filesmiths, scythesmiths and awlbladesmiths joined the Company, largely because of the disputed taxation on smithy hearths.

Figure 2.1 The area of Hallamshire 'and six miles round' [3]

Some craftsmen in adjacent Derbyshire parishes had voluntarily submitted themselves to the control of the Cutlers' Jury of the Hallamshire Manorial Court in 1614,[4] which provided the Cutlers' Company with its excuse to include *all* the cutlers, etc within its arbitrarily extended boundary of 'six miles round'. This area would have included places as far away as Barnsley and Rotherham, but in practical terms, control extended principally over the craftsmen in the parishes of Norton and Eckington to the south of Hallamshire.

The organisation of the Cutlers' Company

The Cutlers' Company was headed by the Master Cutler, who was elected for a year from among the 'Company', which consisted of two Wardens, twelve Searchers and twenty-four Assistants. The rest of the craftsmen were known as the Commonalty and had little say in the running of the Company. The Master's year ran from August to August and the Masters' accounts detail income at the close of their year of office, rather than at the end of the calendar year. This causes problems when crosschecking the numbers of indentures and enrolment of freedoms.

The Searchers played an active part in the organisation of the trades. They were responsible for quality control, being entitled to enter premises and search out 'deceitful' wares, such as cutlery devoid of a steel edge. They were also responsible for searching through the mark books to check that the proposed marks of freemen were not too similar to existing marks or carried covert messages about the quality of the goods ('BEST STEEL' for instance, was not allowed). These men 'in the Company' were not paid for their work, but expenses were claimed, with fines imposed for failure to attend meetings. The other officials - the Beadle and the Clerk - were paid.

To practise the trade of cutler, etc, boys had to serve an apprenticeship of at least seven years. References to apprenticeships were included in the ordinances issued by the manorial court of the Earls of Shrewsbury, and although no documentary

evidence seems to have survived, it is likely that this court played some formal role. By insisting that apprentices were registered at the Cutlers' Hall, where records were kept, the Cutlers' Company performed a very important duty in controlling their numbers. The minimum age for a freeman was twenty-one years and it is assumed that the boy would reach this at the end of the usual apprenticeship of seven years, meaning that a boy would start his apprenticeship and live with his master from the age of fourteen. However, many boys were apprenticed for as long as ten years and some, especially parish apprentices, were specifically bound to serve until they were twenty-four years old. These long apprenticeships occurred mainly in the 17th century and the Company was concerned because boys younger than fourteen were often being apprenticed. However, the main reason for these long 'apprenticeships', appears to have been to tie the boy as a journeyman to his master.

The taking of apprentices was a legal undertaking, hence the many rules surrounding the practice. On the one hand, society aimed at providing people with a livelihood and on the other, the Company desired to restrict the number of craftsmen in order to maintain a reasonable income for its members. The Company therefore stated that only freemen could train apprentices and they could not have more than one, apart from their own sons, until the existing apprentice was in his final year. This rule was frequently broken, since under the Poor Law, a freeman was sometimes obliged to take a parish apprentice as well as his other boys. He might also become involved in 'turnovers'; that is, boys who for some reason, moved from their original master to a second, third or even fourth. Often this was because the previous master died or became too ill to work. This movement resulted in complex financial negotiations whereby the new master repaid the first for receiving a partly trained boy.

Analysis in subsequent chapters will consider the numbers of apprentices, since they are taken to indicate the approximate number of working masters and a sign of the strength and outlook of the industry. In theory, the training of boys should swell the number of craftsmen as the trades expand at an ever-increasing rate. However, some freemen never took apprentices, or at least, none were recorded. Some only trained

one or two boys or only their sons, while some masters flouted the rules and took on several apprentices at once. It is necessary to realise that there was always tension between the Cutlers' Company, the freemen and the Overseers of the Poor in the numbers of boys in training. The Cutlers' Company played a restrictive role, clamping down on too much expansion, rightly fearing that too many apprentices in training would result in a flood of craftsmen chasing too little work. The freemen, however, often reflected the view that while trade was good, they should have more trained boys and journeymen to help fulfil increased orders. Similarly, the Overseers wanted to provide poor boys with a livelihood and remove them from parish support.

The numbers of apprentices taken in each decade and in each community therefore reflects these complex views of the cutlery industry. It is essential to remember, when considering the numbers of apprentices that freemen did not have to register formally their own sons as apprentices, but could train them at home. These shadowy figures - the trained sons of freemen - went unrecorded unless they registered their freedom. The number of these craftsmen can never be known.

On completion of an apprenticeship, at the age of twenty-one or twenty-four, a man could choose to register his freedom. Sheffield never had a mayor and corporation and becoming a freeman did not confer any civic rights or duties, unlike the mediaeval guilds in other towns. However, a man had to be a freeman if he wished to join the 'Company', with the opportunity to become Master Cutler. There was no requirement to produce a masterpiece or demonstrate skills in order to become a freeman. A craftsman simply paid 3s.4d., registered his mark and paid an annual mark rent of 2d. His freedom, with a summary of any background details, was recorded by the Cutlers' Company and an impression of the mark was stamped in the mark book, together with the man's name and date. Thus, he became a man 'who owned his own work' which was identifiable to the Searchers by his registered mark. Between 1624 and 1814, about fifty percent of apprentices eventually took out their freedom, though some waited many years after finishing their training, perhaps until their master or father died.[5]

The non-freemen were a group of trained craftsmen in all the trades, who chose not to register their freedom and a mark, and therefore did not 'own their work'. Without their own identifying mark, they had to be employees and accept work from a freeman. They possibly continued to work, as a journeyman with their original master, either in his workshop or on their own premises. They may have specialised in one aspect of production, perhaps becoming grinders or forgers and they may have occupied the poorer levels of society, a fact that will be discussed in the Hearth Tax analysis. However, because they could not indenture apprentices, they only appear in the Cutlers' Company records again if they apprenticed their sons to a master. They are therefore more difficult to identify and locate.

The freemen and non-freemen were the trained craftsmen who made up the bulk of the Cutlers' Company, being known as the 'Commonalty'. Freemen could be elected to join the small number of men who made up the 'Company' – the officials who made and maintained the rules. The freemen have been easier to identify from the indentures of their apprentices and from their appearance in documents such as the Association Oath rolls, the Storehouse records and the scissorsmiths' covenants. However, it must be remembered that about half the trained craftsmen were non-freemen who did not generally appear in documents after their own apprenticeship.

The Cutlers' Company regulations

The primary roles of the Company were the regulation of the apprentices and the registration of identifying marks. The Company also sought to restrict the craftsmen's periods of work and aspects of production. No limits were placed on the hours in a day that could be worked, but rest periods corresponding to patterns of work in the agricultural year were enforced after Christmas and during August. The Company attempted to maintain some control over production methods by insisting that cutting edges were of steel, with a prohibition on the selling of part-made goods. Hallamshire craftsmen were also ordered not to work with or for 'outsiders' or with anyone who had not been trained according to the regulations of the Company. This

became an issue in the later 18th century, when 'outsiders' strove to enter the trade by becoming financial partners to poor freemen.

Summary

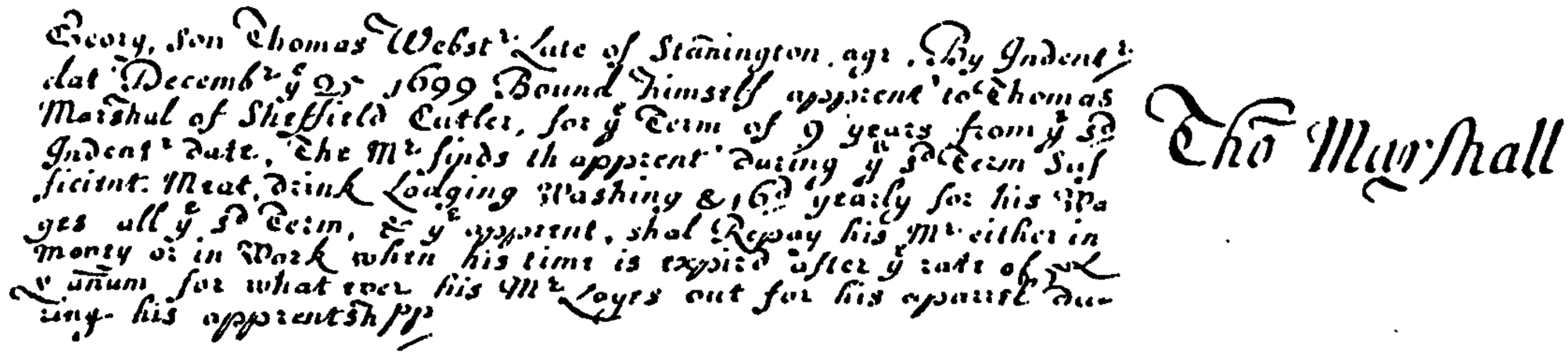
The control and organisation maintained by the Cutlers' Company and its predecessor, the manorial court, created a strong base for an expanding centre of cutlery manufacture in the 17th century. The restrictive regulations on apprenticeships and work practices gave a structure to the trade and support to its craftsmen. Although the Company was a self-electing oligarchy bent on control and restriction, it did provide a focus for the many problems faced by the craftsmen, such as the numbers of parish apprentices, competition with the London cutlers and opposition to the taxation of smithy hearths. In the 17th century, these restrictions and control seemed to have been generally accepted but became key features in the internal dissent and conflict in the later 18th century.

The Company of Cutlers in Hallamshire – its records

One major asset in the study of the Sheffield cutlery trades is the remarkable survival and accessibility of the records of the Company of Cutlers in Hallamshire. Their archive appears to be unique in the quantity and quality of material that has survived. No comparable records for the mediaeval cutlery towns of Salisbury and Thaxted survive and the London Cutlers' Company has lost some of its records, particularly those relating to the cutlers' marks. Through its civic role and because the cutlers made up a large part of the Sheffield workforce, many of the Cutlers' Company documents relate to Sheffield's wider history.

This study combines the 1672 Ladyday taxation list of the smithy hearths with the thousands of people connected with the cutlery trades, recorded by the Cutlers' Company since 1624. These two sets of documents have supplied the information needed to identify the whereabouts of communities of craftsmen.

The records of apprenticeships and freedoms


Thō Marshall

Georg, Son Thomas Webst' late of Staniington. agr. By Indent' dat Decemb'y 2d 1699 Bound himself appr: ent' to Thomas Marshal of Sheffield Cutler, for y Term of 9 years from y 3d Indent' Date, the M'. finds th appr: ent' during y 3d Term Sufficient: Meat, Drink Lodging Washing & 16d yearly for his Wages all y 3d Term, & y' apprent. shal Repay his M'. either in money or in Work when his time is expire after y rate of £ p' annum for what ever his M'. layes out for his apparrel During his apprentish'p

Figure 2.2 Entry from the apprenticeship records. Note that the apprentice is expected to work for the master after his training.

Although the actual indentures and freedom certificates are chance survivals, the books recording the brief details of these occasions survive continuously from 1624 to 1814, and the registration of marks for the periods, 1614-1814 and 1822-1878.[6] The maximum information in the records of apprenticeships was the name of the boy, his origin, his father's name and occupation (and whether he was dead), together with

master's name, place of work and craft. The date of the apprenticeship was given with the number of years and months to be served. Some of these details were often omitted and sometimes, extra information was given, such as whether a boy was a parish apprentice, if a boy was to be apprenticed to his father or if a premium had been paid to the master. There would be a summary of the responsibilities of the master, such as providing food, lodging and clothing. Freedom records were similar in style, giving the date of the freedom and an impression of the registered mark punch.

The Great Book and the Great Mark Book [7]

In 1614, a book was purchased in which to record all the business of the manorial court cutlers' juries, such as accounts, names of the members of the juries and the marks. Called the Great Book, it recorded only 182 marks between 1614 and 1624, amounting to about nineteen per year, which does not seem to be a particularly large number. After Incorporation in 1624, marks continued to be recorded in the Great Book, with each craft being entered in different sections, but dating is inconsistent. The Act of 1624 allowed all the existing cutlers, scissorsmiths and shearsmiths to re-register their marks as freemen, if they wished. Thus, in the early years, many more marks than freedoms were granted. By 1646, although 979 marks had been registered, only 473 freedoms were recorded, which suggest that it had taken about 20 years for all the pre-1624 marks to be re-registered. This means that the 506 cutlers, who claimed entry without the qualifying apprenticeship, may have been trained before 1624. After 1646, all the men who registered a mark had been trained in accordance with the Company's rules. In 1678, the Great Book ceased to be used, having records of 2,010 marks, belonging to 1,562 cutlers, 312 scissorsmiths and 136 shearsmiths (including sicklesmiths).

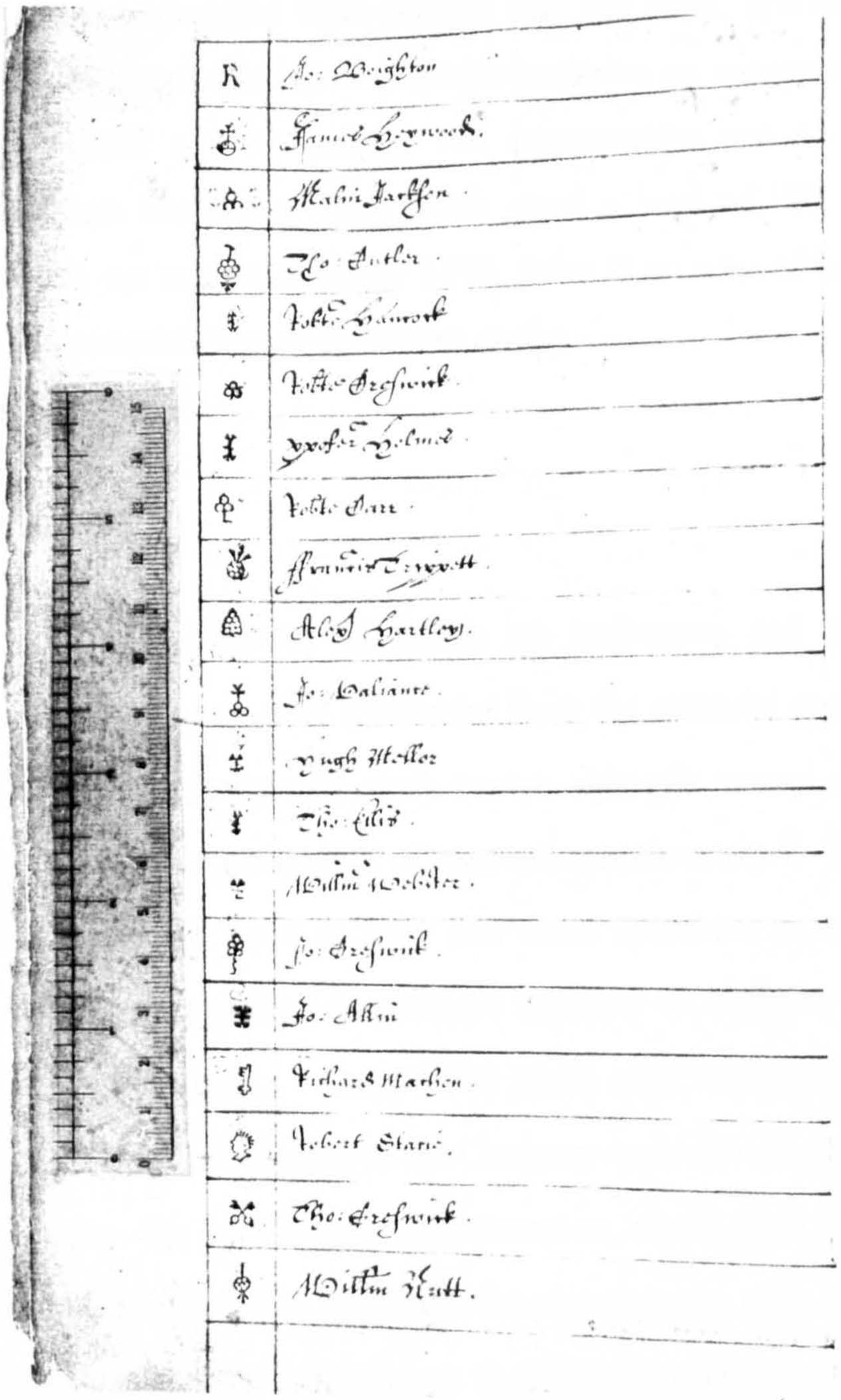


Figure 2.4 Some of the earliest marks recorded in the Great Book, 1614.

In 1678, another book was purchased, even larger than the first and is known as the Great Mark Book, being used solely for the recording of marks. In 1678, all the freemen who were still alive were asked to re-register their marks in this new book.

The craftsmen's names and marks were entered with the dates, presumably of the initial registration. This (re)registration of marks indicates an approximate number for the masters in 1678 as 774 cutlers, 146 scissorsmiths and 65 shear- and sicklesmiths. Although the Great Mark Book gives a total of 985 freemen re-registering their mark up to and including 1678, there is no way of knowing how many surviving craftsmen failed to re-enter their marks.

Freemen's Marks [8]

The Cutlers' Company records of its marks are impressive and appear as an uninterrupted run from 1614 to 1814 with some from the manorial court records as early as 1554.[9] There are seventeen mark books, although several are copies of others and some cover only short periods of time and specific crafts.[10] The reason for so many versions is unclear, but it is likely that some Searchers wanted their own copies and the Company sometimes checked the accuracy of marks by requiring the freemen to re-register their marks. About 9,000 marks were recorded between 1614 and 1791 when the rules of admittance to the Company were relaxed and hundreds of men became freemen. To simplify the administration, marks from that time were almost all numbers; beginning with '91', from the year the new rules began and then given consecutively until the year 1814 when '3,694' was reached. After a break of about seven years, the marks were again registered until the mark books finally ended in 1878. Overall, approximately 14,500 marks for the period 1614-1878 were registered.

The mark design was usually about 1-1.5cm across and was cut into the top of a short rod of steel, which became the mark punch. The marks show exquisite skill in craftsmanship as well as in artistic design, though some of the subtleties of the mark may not have been detectable when struck on a blade. Using engraving tools,

counter-punches and files, a design would be incised into the flat top of the punch. Alternatively, the steel could be filed away leaving the design upstanding. Both methods of mark production were used, creating a slightly different appearance when struck on the blade. When the design was complete, the punch was hardened and would then be used to strike the mark on to the forged blades to identify the craftsman. For registration purposes, the punches were inked or coated in soot to make the impression in the mark books, unlike the Guild of Pewterers for instance, whose marks were struck on sheets of metal. In Sheffield, the marks were also stamped on small pieces of lead attached to the documents recording the man's freedom.

This valuable resource had been little used because it was difficult to locate craftsmen or identify marks on cutlery without a tedious search. Therefore, a research project was undertaken in 1993-1994 to list these marks. Work began on a descriptive system for the marks, which would be added to the DOS-based database of the apprenticeships and freedoms. Because this existing database could not accommodate graphics, it was necessary to describe the marks in such a way that they would be understandable by ordinary people. At the time, the continued use of a non-Windows database it seemed to be a retrograde step. However, graphics cannot be used in a search field in a database and a descriptive system would still have been required in order to search and analyse the data on marks.[11]

By having access to so many marks, it was possible to appreciate their basic format. The marks are made up of three types of elements; letters, symbols, numbers or a combination of these. The arrangement of these elements is either vertical - one element above another - or horizontal, where the elements are side by side. Therefore, only a few words are needed to describe the orientation and arrangement of the elements in a mark, such as *above, on, in, by*. Entering letters and numbers

into the database was straightforward, but the symbols needed a comprehensible description. It was easy to name the pictorial symbols depicting fish, birds, flowers, bunches of grapes, stars, crosses and hearts, etc. Every effort was made to identify symbols and images in contemporary documents and to use the words of the time. The descriptive words used for London marks such as 'standing cross' and 'flaming star', were incorporated when they could be equated with Sheffield marks.[12]

The analysis of the marks shows general trends in styles with different characteristics in the three centuries covered by the mark books. In the 17th century, marks were commonly made up of symbols, with a few letters and even fewer numbers, but by the middle of the 18th century, marks increasingly consisted of letters, often spelling out words. This change probably indicates improved literacy, but with ever-increasing numbers of freemen, it would also have been easier to devise a distinctive mark in letters than a mark with symbols only. This analysis of a major group of records belonging to the Cutlers' Company has added to the understanding of the importance of freemen's identifying marks. It has been used in this research to add corroborative evidence when trying to identify individuals with the same name.

The Scissorsmiths' Covenants [13]

In 1680, the scissorsmiths tried to improve their working lives by limiting their hours of work and by setting up a storehouse in order to buy raw materials and sell their finished scissors. Three petitions to the Company were each signed by approximately 140 scissorsmiths. The first one was dated 16 August 1680 and set out their complaints about being forced to accept commodities for manufactured scissors, rather than money. The signatories proposed the establishment of a storehouse and agreed to take their goods only to the storehouse for sale. The second petition came a month later and repeated similar complaints about the 'truck' system of payment and restated their work practices before, during and after the establishment of the

storehouse. The third petition, in November, dealt with the suffering of the scissorsmiths caused by having to work very long hours. It is difficult to imagine that the scissorsmiths' hardships were more than those endured by the cutlers or shearsmiths, but only the scissorsmiths seem to have organised a viable solution. They proposed to work only between the hours of 6am and 8pm and to take the enforced holidays at Christmas and in August. One cannot know how effective these self-imposed restrictions would be in the face of merchants' demands for goods and the need to bring in money for a family's upkeep.

These documents are very valuable, both for the picture they give us of the actual working conditions and in the names of men who made up a sizeable part of the scissorsmith community.

The Records of the Storehouse, 1680-1685 [14]

The Hallamshire Cutlers' Company took no active role in or controlled the sale of manufactured items, unlike London where merchants played an important part in the guild's activities. Each freeman was responsible for selling his wares, once they were stamped with his mark, an action that enabled the Searchers to check their identity and worthiness for sale. Sheffield has had weekly markets and annual fairs since at least 1296 and the Market Place and market cross were at the bottom of High Street in the town centre. The Shambles, shops and larger inns were nearby.[15] No doubt, the cutlers went to sell their goods to people visiting the market, but they could not reach all their potential customers and the middlemen – chapmen and merchants – became important and they carried the cutlery wares all over the country and abroad. Since there was no organisation or protection for the cutlers selling their goods, they would be at the mercy of powerful merchants who would beat down the prices. In a laudable attempt at protection, the Cutlers' Company set up the Storehouse to sell raw material, and to buy in finished goods. It was established initially in response to the complaints of the scissorsmiths, who were its main clients, but cutlers and some awlbladesmiths and shearsmiths, also took advantage of the facilities to buy and sell.

The finished scissors, knives, etc were then sold on to merchants who visited the Storehouse.

This enterprise required a building (site unknown) and a considerable financial investment. Hardly any accounts of the running costs survive, and the only records of staff were for a man called Grubb, who was paid to cart iron from the forges, and the man who made the cupboards for storing the finished goods. However, the surviving records make fascinating reading, with stock books showing the raw materials purchased by scissorsmiths, etc and the sales of finished items back to the Storehouse. Hundreds of craftsmen, who brought in finished items, were recorded in detail, specifying the prices for the range of scissors and knives. These records provide information for work practices in the late 17th century and the value of this data is demonstrated in Chapter Three.

Association Oath Roll, 1696 [16]

Although this document is kept at the Public Record Office, it was generated by the Cutlers' Company. Oaths of allegiance to William III had been taken in 1689, 1690, 1692 and 1693, but following the discovery of a plot to assassinate him, the 1696 format was different. The Government Act of 1696, including a reference to disavow James II, made the oath obligatory for all office holders but the public was also encouraged to sign. The oaths were taken at the Courts of Chancery, the King's Bench or at the local Quarter Sessions. The rolls are indexed geographically or by occupational groups.

The Cutlers' Company Accounts has an entry for the year 1695/96 referring to the oath: *'charges expended about taking subscription of the Corporation touching the association 14/11 mor 4d.'* After the declaration at the top, names were recorded in four columns. No one signed with a mark and the writing is not in the same hand. The Master Cutler, Robert Spooner headed a list of 743 names, followed by the Wardens, Searchers and Assistants. The Clerk was John Styring, who had been Clerk

at the time of the Hearth Tax, twenty-four years earlier. In an attempt to identify these signatories, a search was made of the main cutlers' database for the number of freedoms granted between 1670 and 1696 inclusive. Over this twenty-six year period, 1,323 men became freemen. Many had probably died by 1696, but most of the 352 men who became freemen in the 1690s might be expected to be alive.

Craft identified from Cutlers' Company records	**Numbers**
cutlers	323
scissorsmiths	77
filesmiths	25
shear- and sicklesmiths	21
awlbladesmiths	12
scythesmiths	12
no craft recorded as apprentice	9
more than one man of that name	196
not identified	68
total	**743**

Table 2.1 Analysis of the signatories of the Association Oath Roll, 1696.

Well over half the 743 craftsmen who signed the Oath can be positively identified and these numbers demonstrate the relative sizes of the different craft groups. Comparing this list of names with the freedom records, there is no evidence to suggest that the separate crafts or particular areas were called in separately to take the oath.

Summary

The Cutlers' Company documents and the Association Oath Roll provide the names of 17th century metalworkers. Table 2.2 summarises the numbers of identified craftsmen drawn from these sets of documents but unfortunately, there is little agreement in the numbers for the different groups of craftsmen. These documents were assembled for a variety of reasons and apart from the craft groups that joined in

the 1670s and 1680s, the numbers of craftsmen depends on my correct identification, accurate record-keeping by the Company and compliance by the craftsmen to obey the instructions for (re)registration. The majority of these identified craftsmen were freemen and it is acknowledged that these figures must therefore be an under-estimation of the true size of the manufacturing community.

crafts	not given	cutlers	scissor-smiths	shear-smiths	scythe-smiths	awlblade-smiths	file-smiths
mark registration by freemen, 1614-1624	184	-	-	-	-	-	-
identified craftsmen in the Hearth Tax returns, 1672	-	365	89	13	5	9	10
re-registration of freemen's marks, 1678	-	774	146	65	-	-	-
freemen joining in the 1670s/1680s	-	-	-	-	33	26	29
scissorsmiths' covenants, 1680, (average of three)	-	-	140	-	-	-	-
Association Oath Roll, 1696	-	323	77	13	12	12	25

Table 2.2 Estimated sizes of the metalworking communities based on different documents. These numbers are mainly for freemen and depend on the accurate identification of the craftsmen.

Hallamshire and the Hearth Tax Returns

The 1672 Ladyday Hearth Tax returns provide a reference point for the discussion of the distribution of craftsmen in Hallamshire. The initial perception that 'Sheffield' was the centre of manufacture disguises the uneven spread of craftsmen within Sheffield parish and Hallamshire as a whole. It is well documented that various areas developed a specialisation in a particular craft and these areas were already well industrialised by the 18th century. In order to identify the specific location of the cutlery-making communities, it has been assumed that the sequence of names in the returns relates to the route taken by the tax collectors. Therefore, with the details

from the Cutlers' Company records, craftsmen can be located more precisely. The correlation of the 1672 Hearth Tax returns and the Cutlers' Company apprenticeship details reveals the occupations of the taxpayers and suggests the size of the metalworking communities in the various villages and hamlets.

Background and procedures

The Hearth Tax was devised to raise revenue for Charles II and following a lengthy debate about the amount required and the best method of taxation, Sir William Petty gave his opinion that people's hearths, or properly chimneys, would be the easiest to identify and assess.[17] The Act came into force in 1662 and provided for a levy of two shillings on every hearth and stove, to be paid in equal parts on Ladyday and at Michaelmas. The occupants of the buildings were to provide details of the number of hearths and pay the tax, but owners were liable for empty properties.

The next stage was to assess the numbers of the hearths. The tax collectors listed people and properties, going round the area in a logical manner as a way of preventing omissions and being accompanied by the constables, who knew the district. Exemptions were granted to people too poor to pay the Poor Rate, people whose premises were worth less than £20 p.a. and to those whose personal property was valued at less than £10. These poor people had to obtain a certificate from their parish officers, signed by the JPs. Initially, the Constables collected the money, which was forwarded to the Sheriffs.

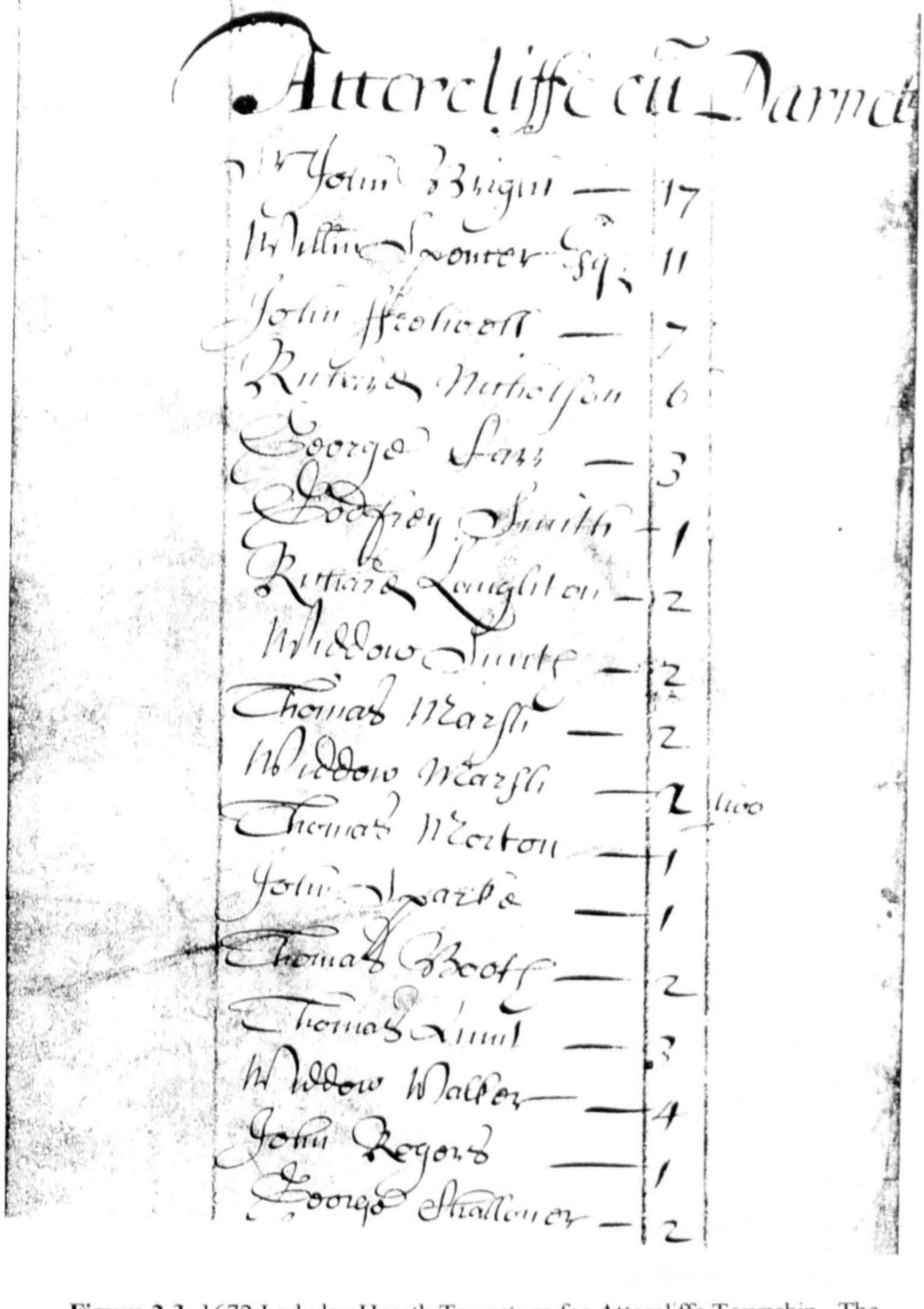
The first survey in 1662 came up with a national total of approximately 1,700,000 hearths and Parliament expected to raise £170,000, but it saw only about 68 per cent of this. The mechanics of collection added confusion to what had seemed a clear and easily administered tax. Further regulations, procedures and the farming out of the revenue collection did not substantially improve this rate. One of the regulations related to smithy hearths, which led to the Sheffield Hearth Tax returns of 1672 being so valuable to historians. Industrial hearths such as kilns, blowing houses and stamp

furnaces were exempt from the tax. Bakers' ovens and smithy forges were not always liable, as the wording was open to different interpretations.[18] This confusion meant that smithy hearths were sometimes exempt and local opposition seems to have won over the Collectors, at least for a time. The Collectors thought that the cutlers' smithies in Hallamshire were liable for taxation but when this was contested by the Cutlers' Company, the assessors went to some trouble to identify these smithies. The Wakefield Library copy of the Hearth Tax return for Ladyday, 1672, lists the names, domestic hearths and smithies in the Townships of Sheffield and adjacent parishes in Yorkshire.

The Hearth Tax for Ladyday, 1672

Because of the confusing regulations governing the taxation of smithy hearths, the 1672 Hearth Tax returns are important in the study of industrialisation in Sheffield because they give the numbers and general whereabouts of these hearths. The Hearth Tax returns give the taxpayers and the numbers of domestic hearths and smithies in the townships of Sheffield and adjacent parishes. The owners of smithy hearths had also been identified in 1670 and an incomplete list has been published.[19]

An appraisal of the importance of the 1672 Hearth Tax returns and their relevance to Sheffield's industrialisation has been made by Hey.[20] In his introduction to the published transcription of the Wakefield Library copy, Hey summarises the data, such as the number of larger houses, the gentry and the poor and places Sheffield in the context of South Yorkshire society.[21] This published transcription is the basis of this research. The Public Record Office copy of this particular Hearth Tax return has a slightly different format and shows the extent of the opposition to the Tax.[22] After the listing of the domestic hearths in the Townships, there are several sections headed by the words similar to this for Sheffield parish "*These persons following are the Cutlers belonging to Sheffield who deposited for there forges but refused to pay the Money w[i]thout a Tryall at Law*" . There then follows a list of smithy hearth owners, headed by Robert Hoole of Brightside, with the numbers of their hearths.


Attercliffe cũ Darnall

Henry Bright	—	17
William Sowter Sen.		11
John Hoole	—	7
Richard Nicholson		6
George Sam	—	3
Godfrey Smith		1
Richard Langlitan	—	2
William Smith	—	2½
Thomas Mason	—	2
William Mason		2
Thomas Morton	—	1
John Marsh	—	1
Thomas Croft	—	2
Thomas Aiuil	—	3
Widow Walker	—	4
John Rogers	—	1
George Shallcross	—	2

Figure 2.3 1672 Ladyday Hearth Tax return for Attercliffe Township. The Public Record Office copy listed the smithy hearths separately

The 1672 Hearth Tax return gives 1,866 entries for the parishes of Sheffield, Ecclesfield and Handsworth. Hey has used the data from the Hearth Tax in his description of late-17th century Sheffield and assessed the population of the parish to be around 4,000.[23] The properties had an average of 1.8 domestic hearths and a smithy hearth was recorded for every 4.5 taxpayers, but it is clear from the lists that some areas had concentrations of smithies, demonstrating an investment in property for manufacturing, especially in Sheffield Township. What the Hearth Tax returns do not give are the crafts of the occupiers of these smithies, not all of whom would be in the Cutlers' Company. They do not give the occupations of other taxpayers either, who included metalworkers without their own personal smithy. Many of the smithy owners have now been identified and located, giving additional weight to the evidence for the widespread industrialisation in Sheffield at the time. The later regulations of 1684 stated that the collectors should go from house to house and it is assumed that the earlier assessors also went round in a logical fashion. This assumption is necessary in order to give precise locations of the metalworking craftsmen and smithy hearth owners. Research will concentrate on the returns for Hallamshire, for although there were smithies in Eckington and Norton, the consistency of information is not comparable to that of the Hallamshire returns.

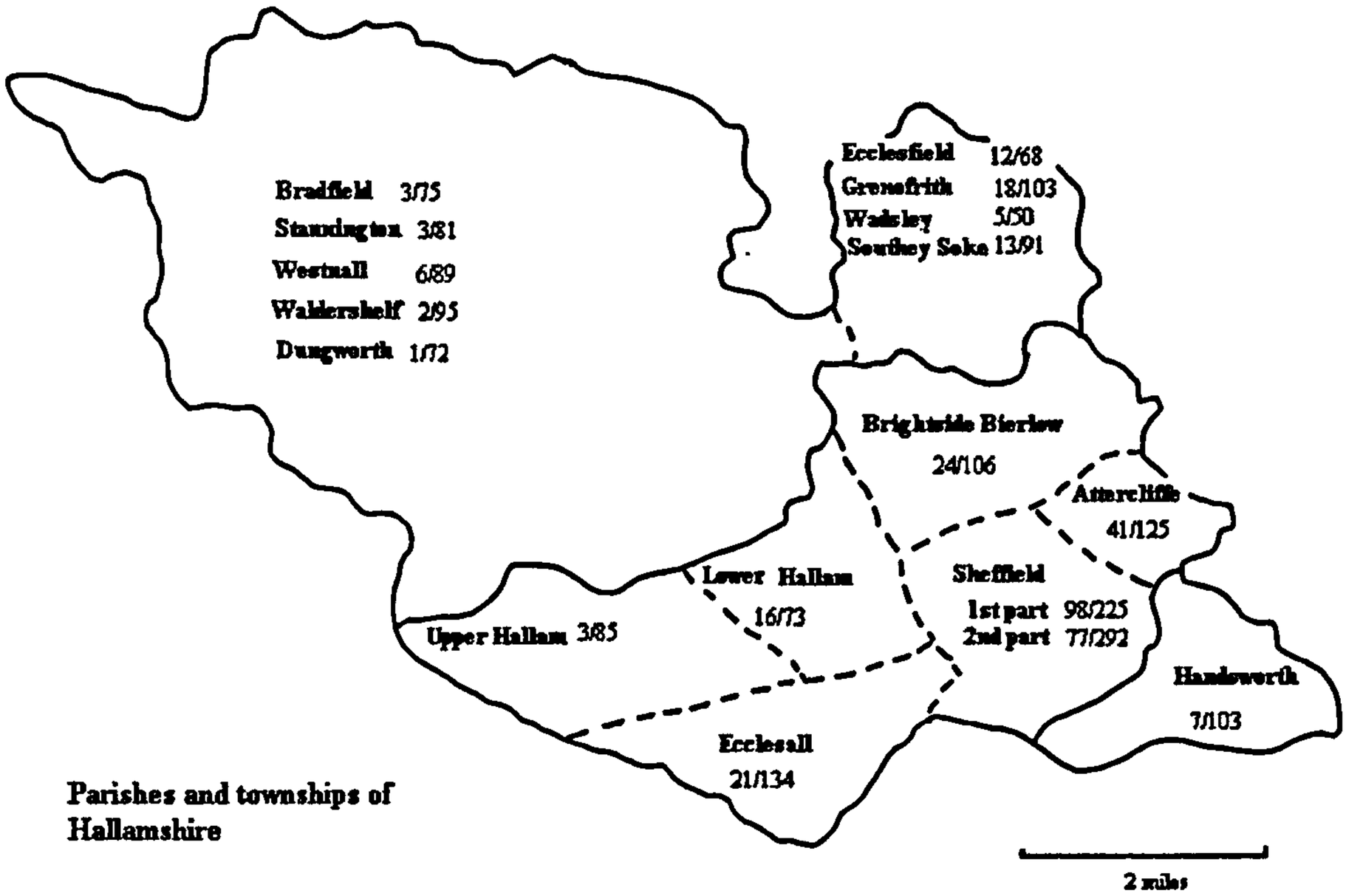
Opposition to the Hearth Tax

There was national opposition to the Hearth Tax, especially to the interpretation of the ruling on forges, furnaces and blowing hearths. Birmingham and Sheffield were areas where numerous metalworkers owned or rented small workshops and the tax on their smithy hearths hit them hard. The opposition to the tax ran for years and involved local gentry and JPs, who often incurred the wrath of the Treasury. This battle has been investigated in detail by Purdy, who demonstrates the relative success of Sheffield.[24] The Cutlers' Company led the opposition to the taxation of smithy hearths on behalf of the craftsmen within Hallamshire. A surviving account book shows the credits and debits incurred by each of the Master Cutlers from 1625-1790.

The book records that, throughout the 1670s and early 1680s, the Company spent hundreds of pounds lobbying for support both locally and in Parliament for its fight against the payment of the tax.[25] The first reference to the Hearth Tax problems came in 1671 when £5 was paid in a suit against the Collector and in the following year, continuing legal challenges to the Tax necessitated visits to the York Assizes. In 1673, a cheaper alternative was tried when Mr Bright, the local JP, was presented with a case of knives costing 16 shillings (compared to the £24 4s.7d. spent in 1672). In 1674, the Clerk John Styring, spent much of the year in London and, with more cases of knives being given, the Company spent almost £100 in its battle. To build up its 'fighting fund', people were asked to contribute and the 1676 accounts show that 175 people, not all of them taxpayers in 1672, donated between one shilling and one pound. In 1682 the Collector, Mr Truman, was prevailed upon not to distrain cutlers' goods for non-payment of the Tax and in the following year, out of thanks or as further pressure, he too was given a case of knives.

One important consequence of the Cutlers' Company fight over the Hearth Tax was that more groups of craftsmen were induced to join the Company and submit themselves to its rules and control. The Cutlers' Company had been established in 1624 to administer the affairs of cutlers, scissorsmiths, shear- and sicklesmiths, but there were other metalworking craftsmen in Hallamshire. At the height of the opposition to the Hearth Tax, twenty-six awlbladesmiths joined in 1676. Later, thirty-three scythesmiths registered their marks in 1681 and in the following year, twenty-nine filesmiths joined the Company. One of their motives can only have been their appreciation that the organisation would benefit them. This seems to have been borne out by the fact that the Hallamshire craftsmen were far more successful in their opposition to the Hearth Tax than similar craftsmen in the rest of the country.[26]

Analysis of Hearth Tax entries



Parishes and townships of Hallamshire

Figure 2.4 Outline map of the parishes of Ecclesfield, Handsworth and Sheffield. The first of each pair of numbers relates to the total number of taxpayers, the second to the smithy hearth taxpayers.

The Hearth Tax returns for the parishes of Sheffield, Handsworth and Ecclesfield have been analysed to give the quantitative data that will be expanded in subsequent chapters. In 1672, the large Sheffield parish consisted of six Townships with an estimated population of around 4,000.[27] Sheffield Township was at the centre,

having the largest concentration of people and the rest of the parish consisted of five rural Townships, with villages, hamlets, fields, farms and woodlands. Furthest west was the largely moorland Township of Upper Hallam, while nearer to Sheffield was Lower Hallam, with Ecclesall Bierlow to the south-west. To the east was the Township of Attercliffe-cum-Darnall, which had two sizeable villages with open fields and common land. The most northerly Township was Brightside Bierlow, which was bounded on the west and south by the River Don and, like Ecclesall and Lower Hallam, was an area of hamlets, woods and fields.

Ecclesfield parish, to the north of Sheffield, was large and included the huge chapelry of Bradfield to the west. Ecclesfield had extensive wooded areas as well as open fields and common land, while Bradfield chapelry was sparsely populated, with moorland, scattered farms and hamlets. The Hearth Tax returns divided Ecclesfield parish into four quarters; Grenofrith to the north, Ecclesfield Township centred on Ecclesfield village, with the Southey quarter and Wadsley on the southern borders. Bradfield chapelry was listed in five sections; Westnall and Waldershelf furthest from Sheffield to the north-west; Bradfield, Dungworth and Stannington, which was nearest to Sheffield and were bordered by the Rivers Loxley and Rivelin. Finally, Handsworth parish lay to the southeast, adjacent to Attercliffe Township and the southern boundary of Sheffield's mediaeval park.

General analysis

The Hearth Tax returns include the names of the Collectors and Constables. The Collectors of the Hearth Tax were outsiders, but the local Constables were involved in the assessment, having an intimate knowledge of the area and people. Some of the Constables have been identified in their taxation returns, but George Lord of Brightside and George Worrall of Worrall cannot be placed in a property in their areas. Roger Bacon of Ecclesall headed his tax list, having a house with two hearths and James Dale listed himself first in Upper Hallam. Roger Beldon was a scissorsmith without a smithy hearth who came 103rd in the Handsworth list. Francis

Spooner lived at Crookes and James Oxpringe lived at Southey, while William Dungworth, a blacksmith, was constable in Attercliffe being taxed for three hearths and a smithy.

Area	Constable	Collector
Attercliffe	Wm Dungworth (98)	Robert Moore
Brightside	George Lord	Robert Moore
Ecclesall	Richard Bacon (1)	Robert Bennet
Lower Hallam	Francis Spooner (4)	Robert Moore
Sheffield 1st & 2nd parts	Andrew Bacon (63); Thos Badger (80 or 181)	Robert Bennet
Upper Hallam	John Dale (1)	Robert Moore
Wadsley	James Oxspringe (Southey 76)	Thos. Middleton
Dungworth	George Tompson (Bradfield 41); George Worrall	Thos. Middleton
Stannington	George Worrall	Thos. Middleton
Westnall	George Tompson (49); George Worrall	Thos. Middleton
Handsworth	Roger Beldon (103)	Robert Moore

Table 2.3 Constables and Collectors for each tax area, the numbers indicate the entry in the particular Hearth Tax return.

Taxation area	no. of tax-payers	no. of hearths	av. no. of hearths	no. of smithies	no. of properties with smithies	%age of taxpayers with smithies
Attercliffe	125	251	2.1	50	41	33
Brightside	106	208	1.9	28	24	22.6
Ecclesall	134	296	2.1	22	21	15.7
Lower Hallam	73	132	1.7	19	16	22
Sheffield 1st	225	286	2.6	130	98	43.6
Sheffield 2nd (1)	292	768	2.6	96	77	26.4
Upper Hallam	85	152	1.7	3	3	3.5
Ecclesfield	68	149	2.1	12	12	17.6
Grenofrith	103	212	2.0	18	18	17.5
Southey Soke	91	183	2.0	13	13	14.3
Wadsley	50	75	1.4	5	5	10
Bradfield	75	128	1.7	3	3	4
Dungworth	72	113	1.5	1	1	1.4
Stannington	81	122	1.4	3	3	3.7
Waldershelf	95	146	1.5	2	2	2.1
Westnall	88	147	1.6	6	6	6.8
Handsworth	103	222	2.1	7	7	6.8
Totals	**1866**	**3438**	**1.8**	**418**	**350**	**18.75**

Table 2.4 The numbers of taxpayers, domestic and smithy hearths in the parishes of Sheffield, Ecclesfield and Handsworth. The shaded entries are those areas where more than 20per cent of the taxpayers had smithies. (1) Sheffield 1st part = Upper = south of the Irish Cross ; Sheffield 2nd = Nether = north of the Irish Cross

Table 2.4 lists the numbers of taxpayers per Township, the Constables having been included only where they were taxed. The analysis summarises the numbers of domestic and smithy hearths and shows that some areas had large concentrations of smithies. The smithy hearths were not spread evenly across Sheffield parish, but were concentrated in both parts of the town of Sheffield, in Attercliffe Township and to a lesser degree in the hamlets of Brightside Bierlow and Lower Hallam. Ecclesall and all parts of Ecclesfield can be considered as having some contribution in the metalworking output of Hallamshire. Other areas, principally to the west and north-west of Sheffield Township, did not have significant numbers of smithies at this time.

Taxation area	total	poor, with or without certificates	empty	new chimneys	dem'd chimneys	widows & other women	Mr or title
Attercliffe	125	23	4	3	1	13	6
Brightside	106	23	3	2	-	17	3
Ecclesall	134	12	3	8	1	11	13
Lower Hallam	73	7	4	4	-	7	-
Sheffield 1st	225	23	3	9	5	22	7
Sheffield 2nd	292	41	9	16	-	31	26
Upper Hallam	85	6	-	1	-	10	2
Ecclesfield	68	3	1	2	-	10	3
Grenofrith	103	4	2	2	-	13	6
Southey Soke	91	3	2	1	-	9	3
Wadsley	50	20	1	1	-	12	-
Bradfield	75	6	-	-	-	8	2
Dungworth	72	-	-	-	-	3	3
Stannington	81	4	2	2	1	3	2
Waldershelf	95	1	-	-	-	6	5
Westnall	88	1	-	-	-	4	4
Handsworth	103	5	4	-	-	15	4
totals	**1866**	**182**	**38**	**51**	**8**	**194**	**89**

Table 2.5 Summary of additional details given in the Hearth Tax returns. The shaded entries are those areas where more than 20per cent of the taxpayers had smithies.

The returns provide further relevant details about the certificated poor, newly built or demolished hearths, the gentry and women taxpayers. The state of chimneys was recorded, because new chimneys were not liable until Michaelmas, and it was

necessary to list the stopped-up and demolished chimneys, which would not be taxed. These additional details suggest that men were not being discouraged by the tax from building new smithy hearths, nor were they demolishing them to avoid payment. There were surprisingly few empty properties.

Women made up about 10per cent of the entries, some of whom were smithy owners and some areas had a sizeable group of women as heads of households. The exempted poor, both with and without certificates, accounted for about 10per cent of all the local taxpayers. However, 40per cent of Wadsley taxpayers were poor, far more than the local 10per cent average and this indicates possible under-recording in other taxation areas. The professional men and gentry were identified in the lists by the designation of 'Mr' or by having 'gent' or 'esquire' after their names. It is clear at a glance that the northern part of Sheffield Township and Ecclesall Bierlow had a small number of middle class and gentry householders, consisting of clergymen, landowners and professionals. However, some of these high-ranking taxpayers, such as Lord Halifax and the Earl of Arundel, appear in the returns only as owners of properties.

Correlation between the Hearth Tax and the Parish Registers - baptisms

One problem with the Hearth Tax returns is the unknown amount of under-recording of residents, as some people will have avoided taxation by being poor or by being overlooked. Other analyses for different parts of the country suggest the percentage of poor who were not recorded could be as high as 30per cent.[28] If this were true for Sheffield, then the proportion of poor in Wadsley (40per cent) was not so exceptional and suggests greater accuracy of recording there than elsewhere.

In an attempt to discover the accuracy of Sheffield's 1672 Hearth Tax, two searches were made of the Parish Registers. Baptisms for 1672 (modern reckoning of January - December was used) were matched with the Hearth Tax.

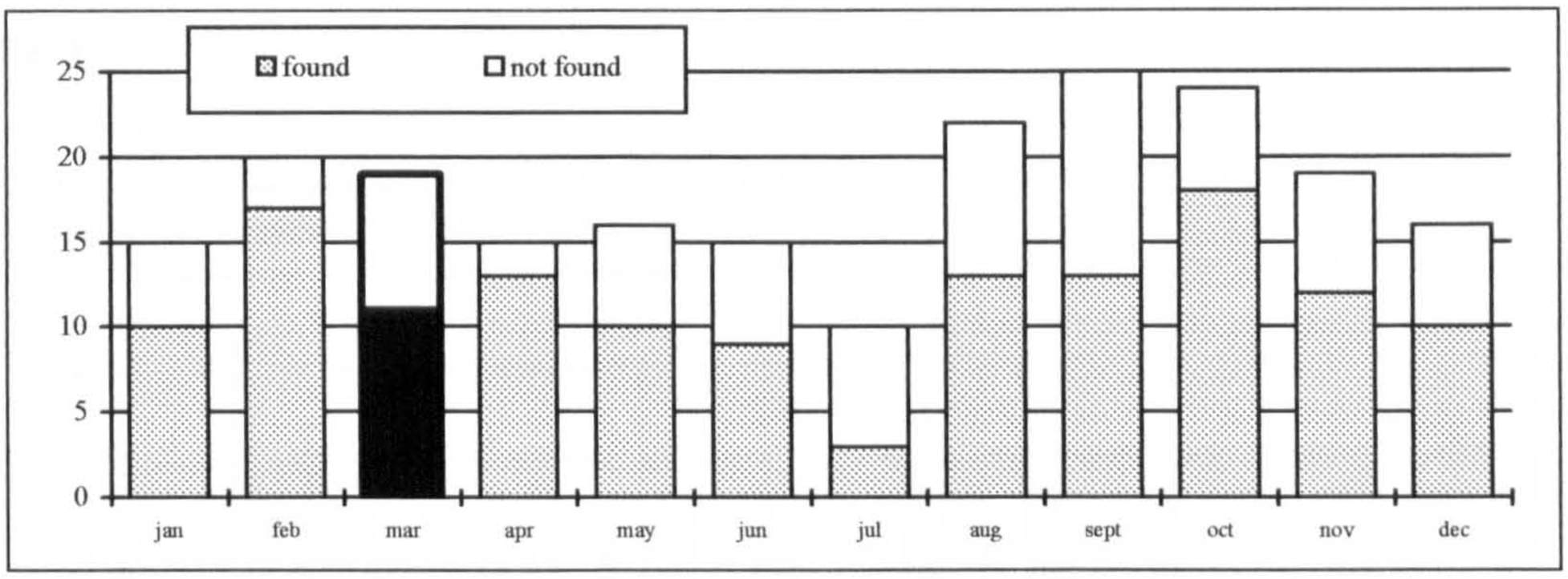


Figure 2.5 Details from the Sheffield parish baptisms in 1672, (Jan-Dec) showing the numbers of people found and not found in the tax returns, black indicating the time around Lady Day.

The names of many fathers matched the Hearth Tax returns with certainty, and others were counted as being present if one or more taxpayer had that name. In theory, the great majority of fathers who baptised children in 1672, at least around the time of Ladyday, should have been taxed. The Hearth Tax provides a snapshot of one moment for the population of Sheffield. The further one travels, forward and backward in time, obviously the lower the correlation between the Hearth Tax list and references such as the parish registers. The graph in Figure 2.5 shows the number of correlated names. With a minimum of ten and a maximum of twenty-five baptisms in a month, the numbers are small and out of the annual total of 216 fathers, 65per cent were identified. It is interesting that the highest correlation occurs in April after the Hearth Tax was taken on Ladyday in March.

The majority of the people who cannot be matched with certainty have 'Sheffield' surnames. One reason why some people cannot be matched with the Hearth Tax is perhaps the underestimated number who must have been in lodgings, either with strangers or with family members. Young couples might have lived with parents, or widowed mothers.

4.3 Correlation between the Hearth Tax and the Parish Registers – marriages

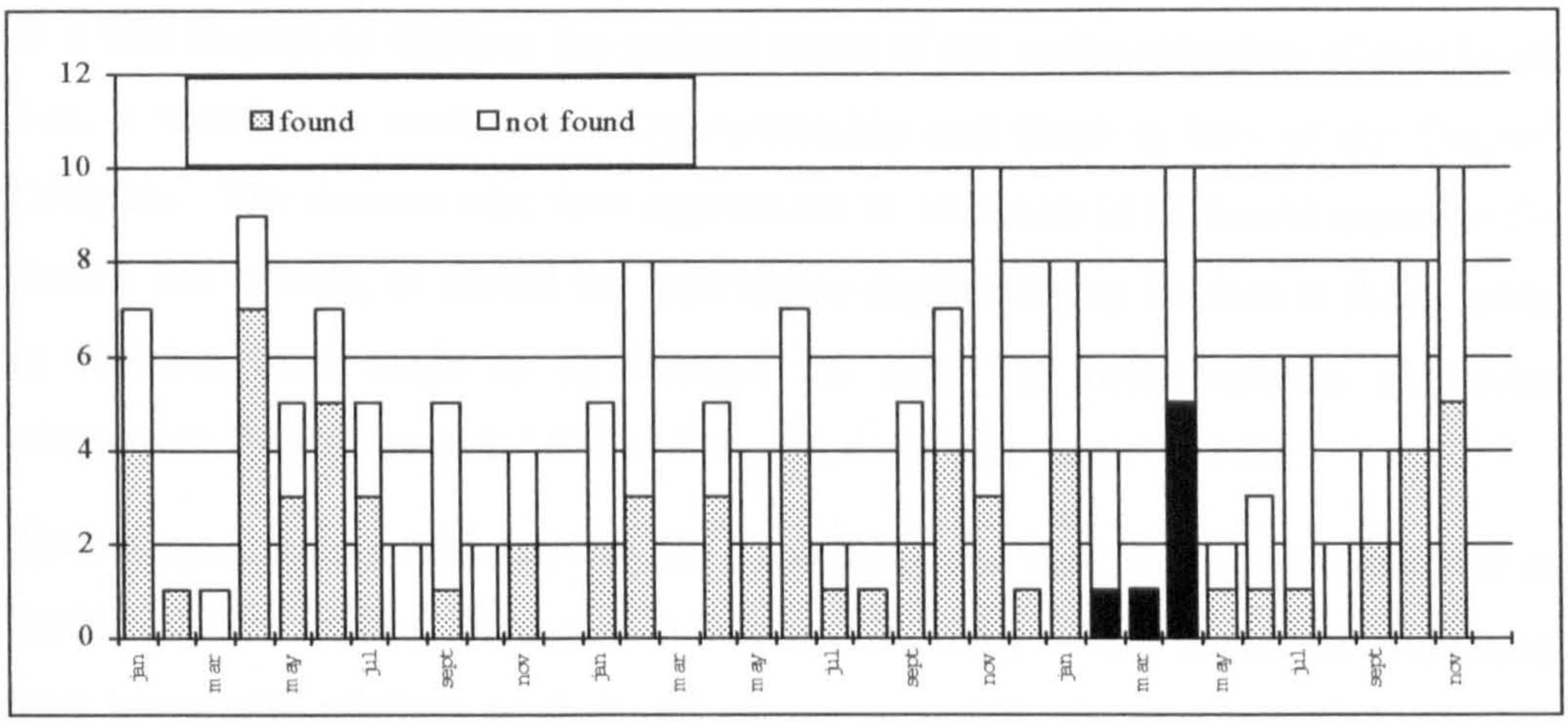


Figure 2.6 Details from the marriages register at Sheffield Parish church, 1670-1672 (Jan-Dec) showing the number of men found and not found, black indicating the time around Lady Day, 1672.

The marriage register was also searched for grooms who could be matched with the taxpayers. An average of twenty-six men in each of the three years was identified, but this was only 50per cent of the total number of marriages. This low correlation could be explained by the fact that grooms may have come from outside the parish to marry their wives before returning home with them. Again, the men not found in the tax lists had family names that were common in Sheffield, suggesting the alternative that these grooms lived with their parents or were too poor to be taxed. Evidence from the registers suggests that many of the apprentices married shortly after gaining their freedoms and at least two married their masters' daughters.

Correlation between the Hearth Tax and the apprenticeship and freedom records

In a final attempt to discover the general extent of any under-recording of the Hearth Tax, a search was made of the apprenticeship and freedom lists of the Cutlers' Company. The masters who took apprentices in 1671 and 1672 should appear in the Hearth Tax returns, as should the men whose apprenticeship finished in those years. In addition, there ought to be evidence for some the awlbladesmiths who were admitted to the Company in 1676 and the filesmiths who joined in 1682.

Seventy-one masters took boys in 1671 and 1672 and their names were matched to the Hearth Tax returns. Nine men did not appear in the returns but seven could have been living with relatives or their old master, especially the men who had only just finished their training themselves. This raises an interesting issue – did the lodger's apprentice also live in the house? Only two masters cannot be found in the Hearth Tax return and do not have any probable connection with a taxpayer. Admittedly, this is a high correlation of a small group of people, but does suggest that the metalworkers were less likely to be under-recorded.

The following table summarises the freedom data from the Cutlers' Company records. About a dozen men were trained in Norton and Eckington, and they have been discounted.

Completing their apprenticeship, 1670-1672 inclusive	176
Number of men who became freemen	110
Number of men who were non-freemen	43
Number of men who became freemen several years later	23
Number identified in the Hearth Tax returns	**35 (20%)**

Table 2.6 Numbers of men completing their apprenticeship, 1670-1672, for Hallamshire only.

Twenty-four of these 'new' freemen have been positively identified as taxpayers, which is disappointingly low but the omission of eleven men can perhaps be explained. Seven freemen could have returned to work with their fathers; three might have gone home to widowed mothers and one to live and work with an elder brother.

The whereabouts of the non-freemen is of interest. Of the forty-three non-freemen who completed their training between 1670 and 1672, only three have been identified as having their own house. The impression is that the non-freemen, who had recently completed their training, did not have their own house. They possibly continued to live with their masters or they may have returned home to their fathers, if they had a cutlery background.

The identification of the cutlery craftsmen in the Hearth Tax returns

The apprenticeship records of the Cutlers' Company were often quite specific about the origin of apprentices and the masters' places of work. By combining these details, most of the owners of the smithy hearths have been identified and therefore the location of these craftsmen in Hallamshire. Some subjective decisions have been made in this process. Some people can be readily identified, by their unusual name or because only one person had that name. Problems arise with surnames that are more common such as John Pearson and William Staniforth and with close family connections in the cutlery trades, when it is not always possible to determine whether names refer to father or son.

Finally, the apprenticeship records, with the names and occupations of the fathers, can provide evidence for taxpayers who were not in the cutlery trades, and a large proportion of unidentified taxpayers would not be involved in the cutlery trades, such as women, gentlemen and rural taxpayers, who were probably agricultural workers.

Analysis of the identified smithy owners

Table 2.4 above gives the numbers of smithy hearths and owners in each taxation area, showing that they were not spread evenly across Hallamshire, with most of the townships of Sheffield parish having a higher than average number of smithy hearths. The majority of the identified smithy hearth owners were cutlers and scissorsmiths. Other crafts made up a small proportion, though prior to their joining the Company, the scythesmiths, filesmiths and awlbladesmiths can only be identified from the records as parents of apprentices. The lists of taxpayers show many people had multiple smithy hearths. In fact, a sizeable number, especially scissorsmiths, had two smithies, while a few men had three and one man had four. The output of a craftsman can be increased by having more than one smithy hearth if he had a journeyman or apprentice working with him. Alternatively, he might have rented out any spare forging capacity. However, it is not clear why two-thirds of the scissorsmiths had multiple hearths, as there is no obvious manufacturing reason.

Three hundred and fifty properties had smithy hearths in Hallamshire and approximately 80 per cent of the owners of these have been identified, including twenty-four women. The majority of owners were cutlers and the proportion of unidentified owners is highest in Grenofrith, which had a large nailmaking community. In Sheffield, the unidentified smithy hearth owners were probably cutlers but there is insufficient evidence for positive identification. Although many smithy hearths belonged to cutlers, very few smithies belonged to identified shearsmiths, filesmiths and scythesmiths, which is surprising. Women owners of smithies must have been an important aspect in the metalworking communities, in that their facilities were probably available for rent.

crafts / smithies	cutlers		scissor smiths		shear smiths		file smiths		awlblade smiths		scythe smiths	
	with	w/out	with	w/out	with	w/out	with	w/out	with	w/out	with	w/out
Attercliffe	21	14	16		1	1	-	-	-	-	-	-
Brightside	14	13	2	-	-	3	-	-	-	1	-	-
Ecclesall	14	11	1	-	-	-	-	-	1	-	-	1
Lower Hallam	6	12	2	1	-	-	-	-	-	-	2	-
Sheffield 1st	48	36	23	10	3	2	5	1	4	1	-	-
Sheffield 2nd	39	61	18	10	-	1	3	-	1	1	-	-
Upper Hallam	-	-	-	-	-	-	-	-	-	-	-	-
Ecclesfield	5	10	-	-	-	-	-	-	-	-	-	-
Grenofrith	1	2	-	-	-	-	-	-	-	-	-	
Southey	8	16	2	1	-	-	-	-	-	-	-	-
Wadsley	4	4	-	1	-	-	-	-	-	-	-	-
Bradfield	-	-	-	-	-	-	-	-	-	-	-	-
Dungworth	-	1	-	-	-	-	-	-	-	-	-	-
Stannington	2	6	-	-	-	-	-	-	-	-	-	-
Westnall	2	4	-	-	-	-	-	-	-	-	-	-
Waldershelf	-	3	-	-	-	1	-	-	-	-	-	-
Handsworth	1	7	-	3	1	-	-	1	-	-	2	-
Totals	**163**	**200**	**64**	**25**	**5**	**7**	**8**	**2**	**6**	**3**	**4**	**1**

Table 2.7 Numbers of identified craftsmen, with and without smithy hearths. The shaded entries are those areas where more than 20per cent of the taxpayers had smithies.

The smithy hearths are valuable indicators of the size and location of the manufacturing communities in Hallamshire, but analysis of the Hearth Tax returns shows that not all craftsmen had their own smithy. Reliance on the number of smithy hearths alone will give an under-estimation of the size of the workforce and it must be remembered that not all the owners of smithies were working in the cutlery trades. Substantial numbers of the men were without smithy hearths. The largest group was the cutlers, while the scissorsmiths had the fewest non-smithy owning craftsmen. Poverty might have been a reason why so many craftsmen, the cutlers at least, did not own a smithy hearth, though many men may not have had the space to establish a smithy hearth.

The Hearth Tax returns for Norton and Eckington

The parishes on the southern boundary of Hallamshire had significant numbers of metalworkers.

	Norton	Beauchief	Eckington
Number of taxpayers	119	15	190
Number of hearths	325	31	338
Number of smithy owners	26	-	21
Number of smithies	33	-	38
percentage of taxpayers with smithies	22	-	11
Numbers of 'Mr'; esq. Gent.	6	1	9
Numbers of women (including widows)	10	2	19

Table 2.8 Summary data of the number of hearths and smithies in the Norton and Eckington parishes, 1670[29]. The information on smithy hearths relates to the lists of those refusing to pay in 1672.[30]

To the south and south-east was the large, rural parish of Eckington, with sizeable villages at Eckington, Mosborough, Renishaw and Ridgeway, with common land and open fields at Eckington and Mosborough. The river Moss flowed east through the parish, providing waterpower for the metalworkers, many of whom were sicklesmiths.

Norton parish, south-west of Ecclesall Township, had numbers of scythesmiths who, until 1681, were not controlled by the Cutlers' Company, and sicklesmiths who were. Norton had several hamlets scattered in the farmland, with some large properties of the well-to-do. The liberty of Beauchief, adjacent to Sheffield's old hunting park, was listed separately. Positive identification of the craftsmen in both Norton and Eckington is difficult because of the number of people with the same surnames. Norton had several families called Atkin(s), Gill and Gillott, while Eckington had many people called Staniforth, Turner and Booth.

The data suggests that Eckington was the poorer area, having 50per cent of the properties with only one and two domestic hearths. In addition, only 11per cent of Eckington properties had smithies, though seventeen owners had two smithy hearths. Twelve men can almost certainly be identified as shear/sicklesmiths. Two of the three single smithy owners were blacksmiths and the other was a cutler.

From the incomplete data, Norton had proportionately as many smithies as two of Sheffield's townships. Nineteen men had one smithy - four cutlers, three sicklesmiths and two scythesmiths. The rest could not be identified with any certainty. Of the five men who had two smithies, three made scythes, one made sickles and one man was an axesmith. Two men had three smithy hearths each; one was a scythesmith, the other has not been identified.

Summary

The quantitative analysis of the Hearth Tax returns has shown that there was an uneven distribution of smithy hearths across the metalworking district. The correlation between the Hearth Tax returns and the parish registers has not been close enough to determine any great under-recording of the Hearth Tax; while the correlation with the apprenticeship and freedom records does indicate there was some. However, it is reasonable to suggest that 'missing' men were likely to be lodging with masters or family and were therefore not taxpayers.

The evidence from the apprenticeship and freedom records has been sufficient to give clear indications of the size of cutlery-making communities and to highlight the fact that many craftsmen did not have smithy hearths. This feature has implications for work practices and trade organisation, which will be discussed in the following chapters.

Conclusions

The cutlery manufacturing communities documented by the Hearth Tax returns of 1672 are those that existed fifty years after the formation of the Cutlers' Company, before the influx of the filesmiths, awlbladesmiths and scythesmiths. It possibly represents a picture of the industry at the end of the mediaeval distribution pattern, before the population increase and the massive expansion in metalworking, which took place in some areas in the 18th century. It was the time before increased use of waterpower, encouraging specialisation in and fragmentation of the different manufacturing processes.

The above analyses have shown the suitability of the 1672 Hearth Tax returns as a basis for the reconstruction of metalworking communities in Hallamshire, especially when correlated with the Cutlers' Company records. The value of the Hearth Tax returns depends on their accuracy, and on an estimation of the under-recording of the population. The Parish Registers and Cutlers' Company records do show that craftsmen were missing from the Hearth Tax returns, but it is suggested that they might not have been householders. The success in identifying the location of the smithy hearths' owners has been crucial for an appreciation of the metalworking communities in Hallamshire.

[1] Hey, D., *The Fiery Blades of Hallamshire.* (Leicester 1991) 54-55

[2] Hall, T. Walter, *Descriptive Catalogue of Sheffield Manorial Records,* .II (Sheffield 1928) pp.vi-viii

[3] Binfield, C. and Hey, D., eds., *Mesters to Masters* (Cambridge 1998) p.xvii

[4] ibid, p.13

[5] Unwin, J., "Apprenticeships and Freedoms: the computer analysis of the Records of the Cutlers' Company in Sheffield', *The Local Historian*, 25, 4 (1995) 194-208

[6] Cutlers' Company archive, reference C5/4/1-8, C6/1-2, C6/1-10 apprentice enrolments and freedoms

[7] Cutlers' Company archive, reference C6/1 the Great Book and L1/1/1 the Great Mark Book

[8] Unwin, J., 'The Marks of Sheffield Cutlers, 1614-1878', *Journal of the Historical Metallurgy Society*, 33, 2 (1999) 93-103

[9] Sheffield Archives, RC 159, handwritten copy of marks from Sheffield Court Rolls, initially transcribed by A.S. Gatty

[10] Cutlers' Company archive, reference L1/1-L1/11, mark books

[11] David Hey was the grant holder of the British Academy funded project at the Division of Adult Continuing Education, Sheffield University. Joan Unwin was the researcher and work continued for several years with volunteers, who entered the descriptions into the apprenticeship and freedom database.

[12] Welch, C.H., *History of the Cutlers' Company of London*, Vol.II (London 1923) 18-43

[13] Cutlers' Company archive, reference S1/1-3 scissorsmiths' covenants

[14] Cutlers' Company archive, reference D19/1-5, Storehouse records

[15] Hey, D., *The Fiery Blades of Hallamshire*. (Leicester University Press 1991) pp.38-40

[16] Public Record Office, C213/331 Association Oath Roll for the Corporation of Cutlers

[17] Beckett, J.V. with Barley, M.V. and Wallwork, S.C. 'Introduction: the administration and collection of the Hearth Tax in Nottinghamshire' in *Nottingham Hearth Tax 1664-1674*, ed W.F. Webster, Thoroton Society Record Series, XXXVII (1988) pp.vii-ix

[18] Arkell, T., 'Printed instructions for administering the Hearth Tax' in *Surveying the People* eds. Schurer, K. and Arkell, T. (Oxford 1992) 38-40

[19] Tucker, S.I., 'Descent of the Manor of Sheffield', *Journal of the British Archaeological Association*, 30 (1874) 266-269

[20] Hey, D., *The Fiery Blades of Hallamshire* (Leicester 1991) 94-95

[21] Hey, D., ed., *The Hearth Tax Returns for South Yorkshire, Lady Day 1672* (Sheffield 1991) iii-vi.

[22] Public Record Office, E179/262/15 Hearth Tax, 24 Chas II, Strafforth and Tickhill Wapentakes

[23] Hey, D., *The Fiery Blades of Hallamshire* (Leicester 1991) 63-65

[24] Purdy, J.D., *Yorkshire Hearth Tax Returns, Studies in Regional and Local History, No. 7* (Hull 1991) 24-29

[25] Cutlers Company archive, reference D1/1 account book of the Masters Cutler

[26] Purdy, J.D., *Yorkshire Hearth Tax Returns, Studies in Regional and Local History, No. 7* (Hull 1991) 29

[27] Hey, D., *The Hearth Tax Returns for South Yorkshire, Lady Day, 1672*, (Sheffield 1991) p.iv

[28] Schurer, K. and Arkell, T. eds. *Surveying the People*, (Oxford 1992) p.204

[29] Edwards, D.G., ed., *Derbyshire Hearth Tax Assessments, 1662-1670*; Derbyshire Record Society, VII (1982)

[30] Public Record Office, E179/94/394 Scarsdale Hearth Tax, 1672.

Chapter 3
The manufacture of cutlery in Sheffield in the 17th century

Introduction

The aim of this research is to try to understand the workings of the cutlery industry in Sheffield in the later 17th century, especially the numbers and distribution of craftsmen in Hallamshire. From this understanding, the expansion of trades can be appreciated, together with the factors that influenced the rise of the Sheffield industry to its position of dominance by the middle of the 18th century.

First, it is necessary to explain the probable working methods and practices of the 17th-century Sheffield craftsmen and to determine how they managed to survive and expand in post-medieval times. Secondly, it is crucial to define clearly the stages in the manufacture of different types of cutlery since increasing specialisation in and fragmentation of these processes by different groups of craftsmen developed in the industry.

This chapter sets out to summarise the salient information relating to :

- the supply of raw materials - metal and hafting material
- the workshops, grinding wheels and tools
- the manufacturing processes of forging, grinding and hafting
- the craft groups and their work.

It is not in the scope of this thesis to consider every aspect of Sheffield's cutlery industry, which has already been fully explored in other publications such as *The*

Fiery Blades of Hallamshire by David Hey. Until fairly recently, one could see all the stages in the manufacture of cutlery being carried out by hand and in a manner which 17th-century cutlers would probably have recognised. Although the 19th and 20th century saw the expansion of mass-production processes, the main changes in the previous two centuries could be seen as specialisation by craftsmen, the increased availability of water power and technological developments in iron and steel production. Using the information from photographs, oral history and evidence from tools and part-finished items, the early descriptions of work practices can be understood.

All items manufactured by craftsmen under the auspices of the Cutlers' Company went through the three main stages of forging, grinding and hafting. These factors must be clearly understood in order to appreciate the rise of the Sheffield industry and its work practices. The manufacturing processes required raw materials, tools, a workplace and a trained craftsman. There were additional stages relative to particular crafts, such as cutting the teeth of a file, the putting together of scissors and the tedding (or toothing) of sickle blades. There were also the subsidiary supply trades such as grindstone quarrying, bellows making and processing handle materials, which will only be mentioned in the context of the main processes.

The raw materials

Iron and steel

Two main sources have been used for this summary description of iron and steel production. Tylecote's descriptions of archaeological evidence [1] have been combined with Barraclough's two-volume work on the steel industry, [2] together with the effective summary by Craddock and Wayman in a British Museum Occasional Paper on the metallurgy of clocks and watches.[3] Three ferrous metals were of importance

in the post-medieval period - wrought iron, cast iron and steel. Put simply, wrought iron has a maximum carbon content below 0.2%, while cast iron is an alloy with 3-4% carbon. The steel available in the 1670s was an alloy of iron with carbon giving a metal called carbon steel, which usually has combined carbon of between 0.5% and 1.5%.

The general method of iron production, used until the later 15th century, was the smelting of iron ore in a bloomery. The iron did not liquefy, the ore being heated and hammered to remove any impurities, such as carbon and silicates. Very rich iron ore, between 50-70% iron oxide, was needed for efficient iron production. The 'bloom' of spongy metal was further heated and hammered to remove more impurities, such as slag inclusions. A blast furnace, introduced into England from Europe at the end of the 15th century, could reach temperatures of about 1,200°C and produced molten iron, which was then run off to form 'pigs' or castings. 'Pig' or cast iron bar could then be refined by removing the carbon (decarburisation) which was achieved by heating and hammering the cast iron at a finery forge, resulting in bars of wrought iron. Wrought iron was malleable and could be forged, welded or bent and was the usual source for steelmaking.[4]

Medieval and post-medieval steel was generally produced by 'carburisation' i.e., the deliberate diffusion by a variety of methods of carbon into wrought iron, but after cast iron was available, steel was made by decarburisation - the reduction of the carbon content. For the purposes under discussion here, the important difference between iron and steel is that, after heating to approximately 1,000°C, steel can be hardened by quenching, which allows a cutting edge to be maintained. After heating, the metal was quenched in whale oil, which hardened the steel but made it brittle. Most of the oil was wiped off before the blade was returned to the heat, which ignited any oil residue, thus helping the tempering process. The degree of hardness/brittleness can be tempered by reheating to a desired temperature within the range of 150°C and 650°C. The temperature of the metal was judged by the colour of steel. An increase in hardness is accompanied by a decrease in toughness so the tempering temperature could balance the degrees of hardness and toughness. The

dividing line between iron, which does not harden on quenching, and steel that does, is a carbon content of about 0.2-0.25%. The carbon content of iron and steel was the critical factor, though the knowledge that the deciding factor was the element of carbon, was not available in the 17th century.

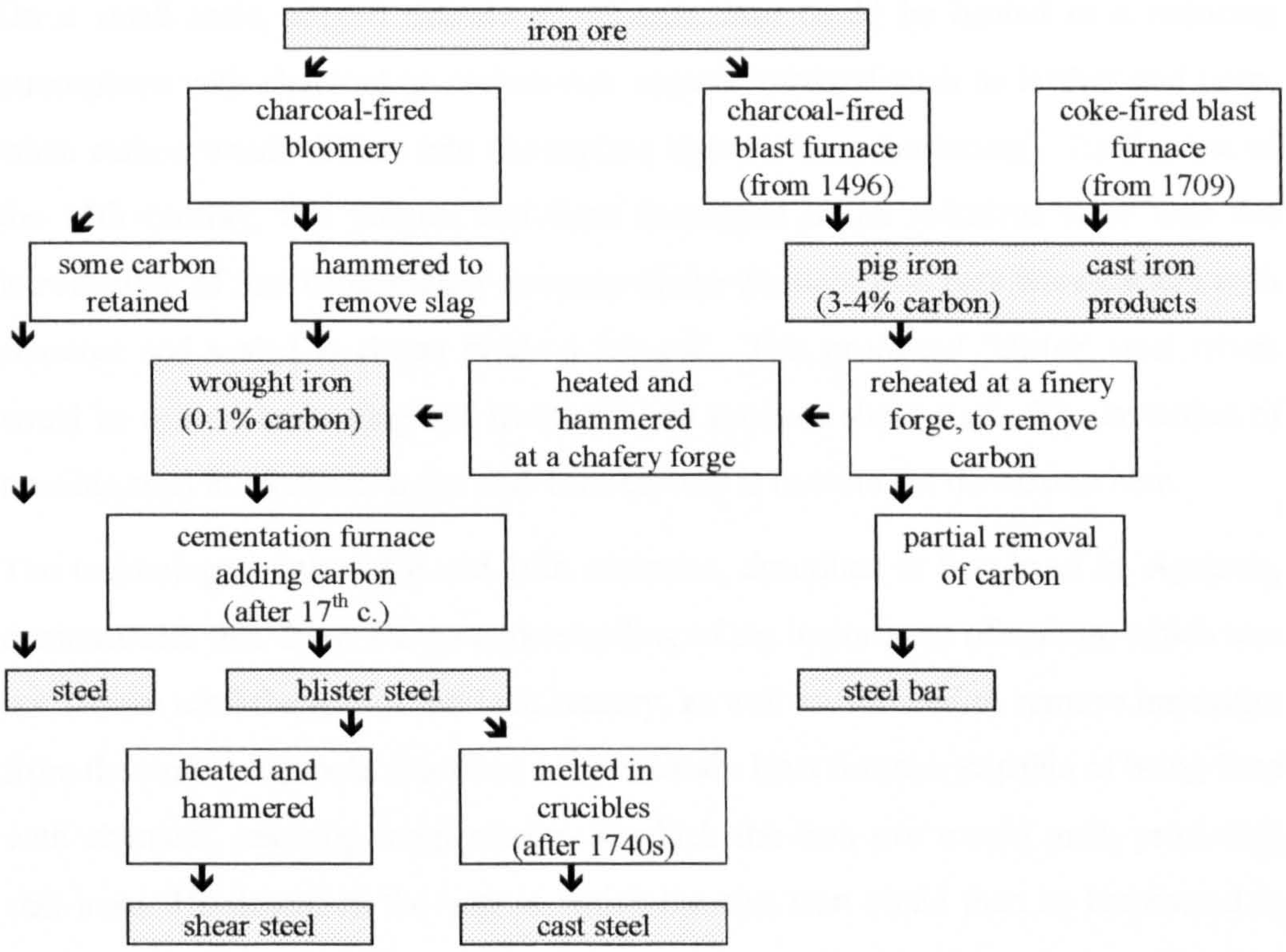


Table 3.1 Diagrammatic representation of the inter-related processes involved in iron and steel making before the mid-19th century

Making steel depended on controlling the carbon content of the metal, but although the carbon content is crucial, other elements particularly phosphorus and sulphur, affect the quality. These elements, present in the iron ore, can make the steel too brittle and since most British iron ores contained phosphorus, the best wrought iron bars for producing steel came from Sweden. Several methods were used to introduce the correct amount of carbon into the metal. Steel could be produced directly at a

bloomery where the carbon was only partially removed from the iron ore; at the finery by removing carbon from cast iron; or by heating wrought iron with cast iron thus allowing the carbon to diffuse into the wrought iron from the higher levels in the cast iron. The presence of phosphorus inhibits the spread of carbon through the metal, hence the importance of phosphorus-free wrought iron, such as came from Sweden. On a small scale, forged objects of wrought iron could be heated in a reducing atmosphere with charcoal or carbon-rich organic material such as leather and horn, when carbon would diffuse into the surface layers - 'case-hardening'. By the end of the 17th century, this process had been developed on an industrial scale with the introduction of the 'cementation' process where wrought iron bars were packed with charcoal and sealed in chests inside a furnace. This produced 'blister' steel which could be refined by heating and hammering to produce shear steel. The invention of crucible steel in Sheffield in the mid-18th century is outside the discussion here.

The technology of the 15th and 16th centuries, described at first hand by Agricola, demonstrates that there was an understanding of the importance of carbon, which was not known until the end of the 18th century, as well as the need to remove impurities from the iron.[5] Agricola described a rudimentary blast furnace, capable of being fired with charcoal, reaching temperatures at which the iron ore would melt, producing cast iron. He described the way in which the cast iron could then be hammered to give wrought iron and if required, steel could be produced. The infusion of carbon into the iron was achieved by placing bars of wrought iron and charcoal in a pot and heating it, after which the bars were hammered to distribute the carbon more evenly through the metal. The metal was then quenched in water. Because all this was an inexact process, much depended on the source of iron (on its purity) and the skill of the ironmaster.

In 1703, Joseph Moxon published a book explaining several metalworking processes.[6] This provides good descriptions of the availability and uses of iron and steel at the end of the 17th century, the different qualities of iron and the heat treatment of metals during forging and hardening. Moxon considered the main sources of iron for English smiths were from England, Sweden, Spain and Germany,

via Holland. English iron was '*generally a course sort of Iron, hard and brittle ... unless it be about the Forrest of Dean and some few places more, where the Iron proves very good*'.[7] It is not clear whether he is talking about cast iron or wrought iron here, but since his description of iron making includes the phrase that '*Iron is, by a violent Fire, melted out of hard Stones*', one must assume he is referring to cast iron, which might then have been treated at a finery forge to remove carbon. Moxon goes on to say that '*Swedish Iron is of all sorts, the best we use in England. It is a fine tough sort... most coveted by Workmen*'. Spanish iron suffered from 'red-sear', which seems to have meant that it was brittle and shattered during working. German iron was considered *'a bad, course Iron'*.

Moxon's description of steel production is not so understandable. Steel came from Germany via Holland, which was sometimes called 'gad' steel; Swedish steel came from Danzig; Venice steel and Spanish steel from Biscay.[8] He maintained that all these sources produced good, bad and indifferent qualities of steel and because of the problems of brittleness and toughness, seems to suggest that acquiring usable steel was almost a lottery. Craddock and Wayman describe the manufacture of 'natural steels' in Sweden, Styria and Catalonia, which must have added to the confusion over which metal was being used.[9] Moxon finally mentions Damascus steel that was better than all others were. It was very rarely available in bar form and English workmen were more likely to see Turkish scimitars made of this steel. It was considered the best steel for making punches, yet it was difficult to work and Moxon thought it was cast steel. Craddock and Wayman confirm that crucible steel was being made in India and the Islamic countries of the Middle East, where temperatures of 1,400°-1,500° C. could be achieved.[10] They comment on the general lack of interest in this metal, concluding that Europe of the 16th and 17th centuries had little use for metal of such quality, which was difficult to work.

Supplies of metal

One factor influencing the development of the cutlery trade in Sheffield and elsewhere was the availability of suitable metal. The Sheffield area once had its own supply of iron ore, which together with local charcoal was made into iron, though there is little information on the scale of such workings in the Middle Ages. Local forges undoubtedly provided blacksmiths with their raw material for agricultural implements, for knives and other metal items. In 1297, one Robertus le Cotelar appears in a tax list which is the earliest surviving evidence that a cutler, as distinct from the blacksmiths, was working in Sheffield.[11] He probably used the same source of metal as they did. Between 1297 and the 1560s, the manufacture of cutlery had expanded, to the point where there were enough cutlers to require the Lord's manorial court system for their trade organisation. Sheffield's supply of suitable metal for cutting implements had been sufficient to maintain the trade's expansion. Therefore, where did Sheffield's cutlers get their iron and steel ? The possible sources for Tudor and early Stuart cutlers were :

a) from local ironmasters,

b) from elsewhere in England and Wales

c) from overseas.

local production of iron and steel

Hey summarises the involvement of local families in the production of iron in the 16th to 18th centuries, showing the close links between the owners of the various furnaces in and around Sheffield.[12] The early method of iron manufacture, that of a bloomery producing wrought iron, was well-represented in the Sheffield area in the medieval period - at Handsworth, Treeton, Norton, Totley, Rivelin, Canklow, Oxspring, Butterthwaite and others.

In the 1580s, finery forges at Upper and Nether Hammer in Attercliffe produced wrought iron from Kimberworth and Wadsley cast iron,[13] while at Rockley, the 16th century water-powered bloomery was replaced by a water-powered blast furnace on a new site in the 17th century.[14] The local production of steel in the 16th and 17th

centuries is poorly documented, so it must be assumed that bloomery forges were producing small amounts of steel as well as wrought iron and that, following the introduction of the blast furnaces and attendant finery forges, local steel could be made more easily.

Figure 3.1 John Speed's map of the Sheffield area, 1610, showing Wadsley and Rockley

from other parts of England

The later medieval period saw improvements in the technology of iron production. During this period bloomery forges, which produced iron by heating the ore and then

hammering out the impurities, applied waterpower to the bellows and hammers, thus cutting the costs and increasing output.[15] Late in the 15th century, the output of a good bloomery forge was about 30 tons per year. The spread of the blast furnace technology after 1496 led to a great increase in iron production and at the beginning of the 16th century, a good blast furnace could produce 4-5 times the equivalent wrought iron from one bloomery.[16] The northward spread of these furnaces from Kent and Sussex was slow; it was almost a hundred years before Wadsley, and Kimberworth furnaces were established in the 1580s.

The development of steel-making using the cementation process was introduced into England - on Tyneside, in Yorkshire and the Weald - in the 17th century.[17] English steel production in the early 17th century was bound up with the system of granting monopolies, restricting imports and attempting to reduce English reliance on imported steel, especially for armaments. These attempts were thwarted by the complaints from the London cutlers and others about the quality of steel produced by Elliott and Meysey, under patent from Sir Basil Brooke, and by a petition from the Netherlands objecting to the ban on steel imports.[18] In Sheffield, the Master Cutler's accounts noted in 1663 '*a petition was sent this year praying that Spanish iron may continue to be transported*'.[19] Another factor, which hampered England's ability to supply its own needs, was the relatively high cost of charcoal, adding to the production costs of English ironmasters and placing them at a disadvantage with the Swedish manufacturers.

There is a fascinating document written in the mid-17th century, probably by Abraham Cronsberg, an official of the Swedish Board of Mining, who had considerable interests in iron and steel manufacture and exports.[20] In his survey of other European producers, Cronsberg mentions iron mines in various places in England, including Derbyshire and states there were 800 blast furnaces, with a German making good steel in Wales. However, the author probably took this information, with some misinterpretation, from Simon Sturtevant's book 'Metallica' written in 1615. Sturtevant said that there were about 300 furnaces and 500 forges, with each furnace producing about 15 tons of pig iron a week for 40 weeks a year.[21]

from overseas

Cronsberg described the various methods of iron and steelmaking both in Sweden and in other parts of Europe. Costings, production figures and markets show that the author was keen to develop exports for Swedish metal and it is clear that the importance of metal production to the Swedish economy and the involvement of the Swedish Crown, nobility and merchants, fostered interest in technological developments.

Early supplies of bar iron and steel came to England from the Baltic countries and Spain. In the 14th and 15th centuries, the Baltic trade was uncertain, being controlled by the Hanse league, but by 1600 Sweden exported about 6,000 tons of bar iron and by 1700, this had been increased to about 28,000 tons, with England buying about half of Sweden's export.[22] Until the 1770s, Sweden was the source of most foreign bar iron in Britain and Britain was Sweden's most important customer in the 18th century. This situation was threatened by the success in England of coal-fired smelting of iron in the 1750s.[23]

Spain produced good quality bar iron in the Basque region, which was imported into England and steel came from Germany where the cementation process had been developed in the 16th century. This steel was considered superior to British steel.[24] There were attempts in Elizabeth's reign to establish steel manufacture using foreign craftsmen, but after some initial success and after affecting the German imports, the home industry was faced with stiff competition from the Baltic states, who reduced prices to undercut home production.

The Cutlers' Company Storehouse

The availability of raw material to Sheffield craftsmen can be clearly seen for a short period through the pages of the Storehouse records.[25] In the early 1680s, in a brave attempt to prevent the craftsmen, and scissorsmiths in particular, being exploited both by suppliers and by merchants purchasing finished items, the Cutlers' Company set up a Storehouse for the sale of raw materials and the purchase of finished goods, which

it then sold to merchants. This admirable venture shows the Company in a good light since it bought and sold goods without seeming to add any percentage for its efforts. It is hard to understand how the Company imagined the business would survive and it had chronic cash-flow problems. Leader explains the background of the venture and summarises its history and the records provide excellent documentary evidence for the sale of goods and raw materials.[26] In 1681, money was owed by craftsmen for material they had purchased, such as the scissorsmiths who together owed £34.17.0 for iron and steel. A London merchant, Mr Guillims seems to have been the main supplier of imported material - 13 cwt of German steel for £24.14.0 as well as exotic hafting material. Iron appears to have been supplied to the Storehouse from the local forges of Wadsley and Attercliffe at a cost of £14 per ton. Between November, 1681 and March, 1682 Wadsley forge supplied at least a ton a week, while Attercliffe supplied a much smaller amount of about 5cwt a week until March, 1682 when it replaced the supplies from Wadsley at a ton a week. Steel seems to have been supplied in two qualities - German steel, supplied by Mr Guillims - and 'steel', which was supplied by Mr Barlow. He supplied 178 cwt in this period, but the prices are confusing, since much is supplied 'by note'. He also supplied reams of paper at 3s.0d. per ream. Francis Barlow was a man of note in Sheffield and was involved as an ironmaster at Masbrough near Rotherham.[27]. He was taxed for twelve hearths (listed 15 in Sheffield 2nd Part) as the keeper of an inn on High Street, Sheffield. The Storehouse records are an invaluable source of information showing that in the later 17th century, Sheffield cutlers had access to all the raw materials they required - the metal, hafting material, emery for polishing and glazing and even packing paper. The reasons for the establishment of the Storehouse make it clear that the cutlers could already acquire these materials but were greatly at the mercy of merchants, many of whom were not local. Some local ironmongers could supply iron and steel. Hey describes the men, some being prominent local figures, who were purchasing iron from the local forges at Attercliffe and Wortley, to sell on to local metalworkers.[28] It is regrettable for the Sheffield cutlers that the Storehouse was doomed to fail and that by the 18th century, they were again subjected to all the injustices of the 'truck' system of trading.

Summary

England and Wales had supplies of iron ore, charcoal and coal. In the later Middle Ages, Britain had the technology for making wrought iron and steel, though not always of the quality or quantity to satisfy cutlers. Even after the development of water-powered bloomeries, the introduction of blast furnaces and the later cementation furnaces, the importation of continental bar iron and steel was essential. Most imports from the continent entered the country through London or Bristol and with the major technological improvements, which developed in the Weald, the London cutlers were closer than Sheffield to the supply of quality metal. Sheffield seems to have been relatively isolated from the mainstream metalworking developments and was remote in transportation terms, obtaining bulk imports through the inland port of Bawtry. It had its own metal extraction industry from medieval times, with the smelting of Tankersley ore, but new developments - the blast furnace and the cementation process - took some time to reach Sheffield. In the 16th and 17th centuries, Sheffield did not seem to have the advantages that London had in the availability of good quality metal, but it was still able to obtain iron and steel in sufficient quantities for its cutlers.

Hafting material

London knives

Finds retrieved from London excavations, include knives dating from the 12th to the early 15th centuries and almost three-quarters of them had wooden handles. Box was the most common wood used and other woods included holly, beech, yew, alder and maple.[29] In the 1460s, the London cutlers' guild was buying ivory to sell to its members at 6d. per pound and records show sales of between 1lb. and 25lbs. to individual cutlers. However, price fluctuations meant that the guild ceased to supply

ivory after a few years and left it to ivory merchants.[30] By the 16th century, the London cutlers were producing high quality, up-market knives with ivory handles enriched with semi-precious gems, handles of jasper, amber, ebony and iron damascened with gold and silver.[31] Such superior knives are the sort to survive in collections and museums and, although they show the cutlers' skill, they do not represent the mass of knives, which would have had much plainer handles.

Figure 3.2 Examples of handle materials on 17th century London-made knives, showing the use of silver, ivory, agate and jet.[32]

Sheffield knives

No fine examples of Sheffield manufacture for the 16th and early 17th centuries seem to have survived and Sheffield knives from this period show that handle materials were commonly wood, bone or antler. Boxwood, homegrown and imported, was a

common hafting material and coppice wood was used for the handles of agricultural implements such as sickles. Domestic animal bones, horn and antler would also be available locally.

Exotic hafting material did reach Sheffield in the later 17th century, even if few knives survive with such handles. Sheffield probate inventories from the later 17th century, are a valuable source of information for the cutlers' work practices and lifestyles. In 1690, the appraisers of the goods of George Harrison, a Sheffield cutler, listed - *'ffoure tortes [tortoiseshell] knives, 6 olivante [ivory] spring knives, 3 dozen horn spring knives, 1 agott [agate] knife, 6 tortes knives and 17 dozen of horn scale, a stone and a half of horne scale and 39½ lb of Tortose'*. George Harrison obtained his freedom in 1670, being taxed in 1672 for one domestic hearth and one smithy hearth in Sheffield 2nd part. At the time of his death, he was obviously skilful enough to work profitably with tortoiseshell and ivory, as well as horn. In 1713, John Shirtcliffe, a Sheffield cutler, died owning *'1000 beef bones, a parcel of unwrought silver, a parcel of ivory teeth and a parcel of ivory hafts unwrought'*. These large amounts of hafting material show he was producing knives for a wide market.

Sheffield cutlers therefore had access to exotic material such as tortoiseshell, ivory (elephant and possibly walrus), horn and agate and the Storehouse dealt in some of these hafting materials. In November 1681, a stocktaking provided a summary showing that there was bone worth £6.6s.6d. (11 dozen at 11s.6d) and boxwood worth £11.17s.6d. Again, the London merchant, Mr Guillims, appears as the principal supplier of tortoiseshell, providing for instance, 28 cwt of tortoiseshell for £8.17s.4d. Although he is not specifically named, Mr Guillims may have been the merchant supplying the ivory 'teeth'. Ivory valued at £10.10s.9d. remained in the Storehouse at the beginning of November 1681 and later that month the Storehouse received 36 teeth for £67.8s.9d. Further deliveries of 66 teeth and two parcels amounted to almost a ton in weight. The Storehouse dealt in less costly hafting material such as bone, tips, horn and shanks. Tips (the ends of cattle horn) were delivered in barrels each containing about 50 gross (7,200 tips) at 12d per gross. In November 1681, bone was being sold to cutlers at 16s.0d. per hundredweight and

boxwood at approximately 10s.0d. per hundredweight.

The sale of raw material through the Storehouse indicates the availability of ivory and tortoiseshell and shows that Sheffielders, by the later 17th century, were capable of making up-market knives. One can only speculate on the supply of such materials earlier in the century, but presumably, it was controlled by the London merchants who supplied shopkeepers or sold directly to the cutlers. Sheffield shopkeepers such as John Parkin, sold imported items. His probate inventory of 1691 describes him as a cutler, with a smithy and smithy tools, but he also had a shop in which he sold items such as brown paper, ground ginger, writing paper, frying pans, brandy, tobacco, iron and steel, gunpowder, copperas and soap. However, his inventory does not include hafting material.

Summary

The common, everyday hafting materials would have been available locally, though perhaps not in sufficient quantities. Coppice wood not used for charcoal could be used for cutlery and tool handles. The ends of animal bones - pig, cattle and sheep - were used for table knives and spring knives, while exotic materials probably reached Sheffield through London and demonstrate that cutlers had become skilled in using them. Metal could also be used for hafting and certainly later in the 18th century, increasing use was made of silver, plated metals and stamped-out brass. Sheffield knives have also survived having porcelain, agate and crystal handles and examples of 18th century knives in museums and private collections show the ingenuity of hafting table knives, spring knives and razors.

The smithies, grinding hulls, workshops and tools of the trade

All metalworking craftsmen require a workspace. They needed smithies and grinding hulls for forging and grinding, with general workshops for hafting and finishing, which might also contain a hand or foot-powered grinding wheel. The tools used for most processes were simple and often homemade, while the premises would be small-scale. Evidence from surviving 19th century workshops shows this to be the case.

Smithies and forging

Smithies are the key feature of this research. In the later 17th century, they were taxed and the resulting information can be used to locate the cutlery forgers with some accuracy.

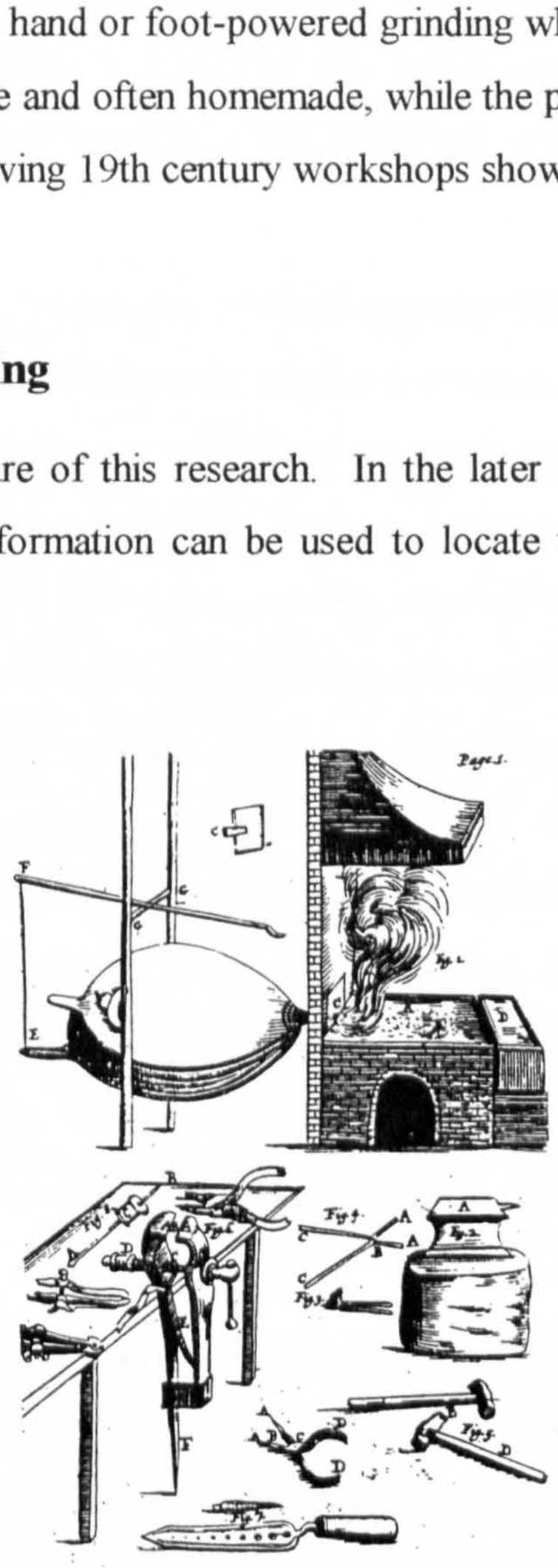


Figure 3.3 Drawing of an early 18th century smithy (not specifically for a cutler), showing the hearth, bellows and stiddy.[33]

There are no surviving 17th century smithies in Sheffield, but it seems reasonable to assume that the forging processes would dictate the form - a reheating hearth, bellows, a stock surmounted by an anvil (often called a 'stithy' or 'stiddy') and water trough or cooltrough for quenching the metal during hardening. Fuel, as coal or charcoal, would be stored nearby. To prevent fires to neighbouring buildings, the hearth, chimney and possibly the whole smithy, would have been built of stone and later brick. Leland commented in 1540, on the '*many smithies and cuttelars in Hallamshire*'.[34] It is therefore a surprise that there has never been a major fire in Sheffield.

Early references to smithies, which may or may not have belonged to cutlers, come from charters and wills. A charter of 1498 mentions a '*house called a smethy*' at the north end of Water Lane, attached to the middle of three tenements.[35] The profits of this tenement and smithy were to go to provide for masses at the parish church for the soul of William Hyne and various other people. The will of Richard Boyer, 1542, details bequests to his son John, including agricultural equipment and '*smythe gere and the coultroughe*'. The will of John Birley, an Attercliffe yeoman, gave to Hugh Swan his *'bellows, stithes, hamers and tonges, with all things belonging to the smythe'*.[36] Later evidence for Sheffield smithies comes from the 1581-1584 rentals of the Earl of Shrewsbury. Alexander Tryckett had a smithy in Balm Green and paid 2s.6d for that and his house and garden, while Gilbert Spencer had a smithy *'being an outshutt at his house syde'* for which he paid 6d.[37] This entry gives an indication of the intermingling of smithies with houses and suggests small additions to existing buildings.

The bulk of the information on smithies comes from the inventories of the late 17th century, which list the tools and equipment: the stocks, stithies (anvils), bellows, tongs, hammers and cooltroughs. Occasionally they detail raw materials such as iron and steel, unfinished blades and fuel. Men (and women) who had more than one smithy hearth also had multiples of the necessary tools.

craftsman	inventory date	tools, equipment
William Denton, cutler of Wincobank, Brightside Bierlow, freedom 1654, who was assessed in 1672 as having 1 hearth and 1 smithy hearth	February, 1690/91	One pair of bellows one anvill four hammers One glazer one vice with other tooles £3.0.0
John Parkin, cutler of Sheffield	February, 1690/91	It. a paire of Bellows 1 dubble bellows 2 Stythes 2 Stythe Stocks 2 Cooltroughs certaine hamers tongs & Glazier £5.0.0
William Staniforth, sicklesmith of Hackenthorpe, freedom 1667	November, 1696	Two paire of Bellows 2 Anvels 6 paire of Tongs & other necessaries belonging £3.6.8
Lewis Nawl, cutler of Sheffield Park, freedom 1683	October, 1697	a pair of bellows,15s.0; a stithy and Stock, 1s.5d; 6 hamers & 6 pair of Tongs, 6s.6d; a glaizer & Cooletrough, 3s.0d; unwrought iron and steel, 18s.0

Table 3.2 Details from late 17th century Sheffield inventories, held at the Borthwick Institute, York. [38]

Lewis Nawl's inventory suggests that the bellows were the most costly piece of equipment in the forge and that tools had a modest value compared with the iron and steel in stock. The cutlers and other metalworkers would probably make many of their own tools, but anvils and heavy hammers were usually made by blacksmiths. In Sheffield, the apprenticeship records of the Cutlers' Company for the 17th century lists twenty-seven local blacksmiths who apprenticed their sons to Cutlers' Company masters. Another group of associated specialist craftsmen were the bellows makers. Two men, both with the surname Osburn, apprenticed their sons in the 1680s. One lived in Attercliffe, the other in Ecclesall Bierlow and both appear in the 1672 Hearth Tax returns.

The term 'forging' here relates to the heating of bar metal and hammering it to form a blade and for most craftsmen, this was a hand process. For this, a cutler would have a reheating hearth, with hand bellows, a stone or wood stock with an anvil on top. The associated tongs, hammers and bosses for different items to be forged would be to hand. .In Sheffield, this process was generally carried out in a 'smithy' or 'shop'

except in the forging of heavier, larger items, such as scythe blades which was more likely to be done using water-powered hammers.

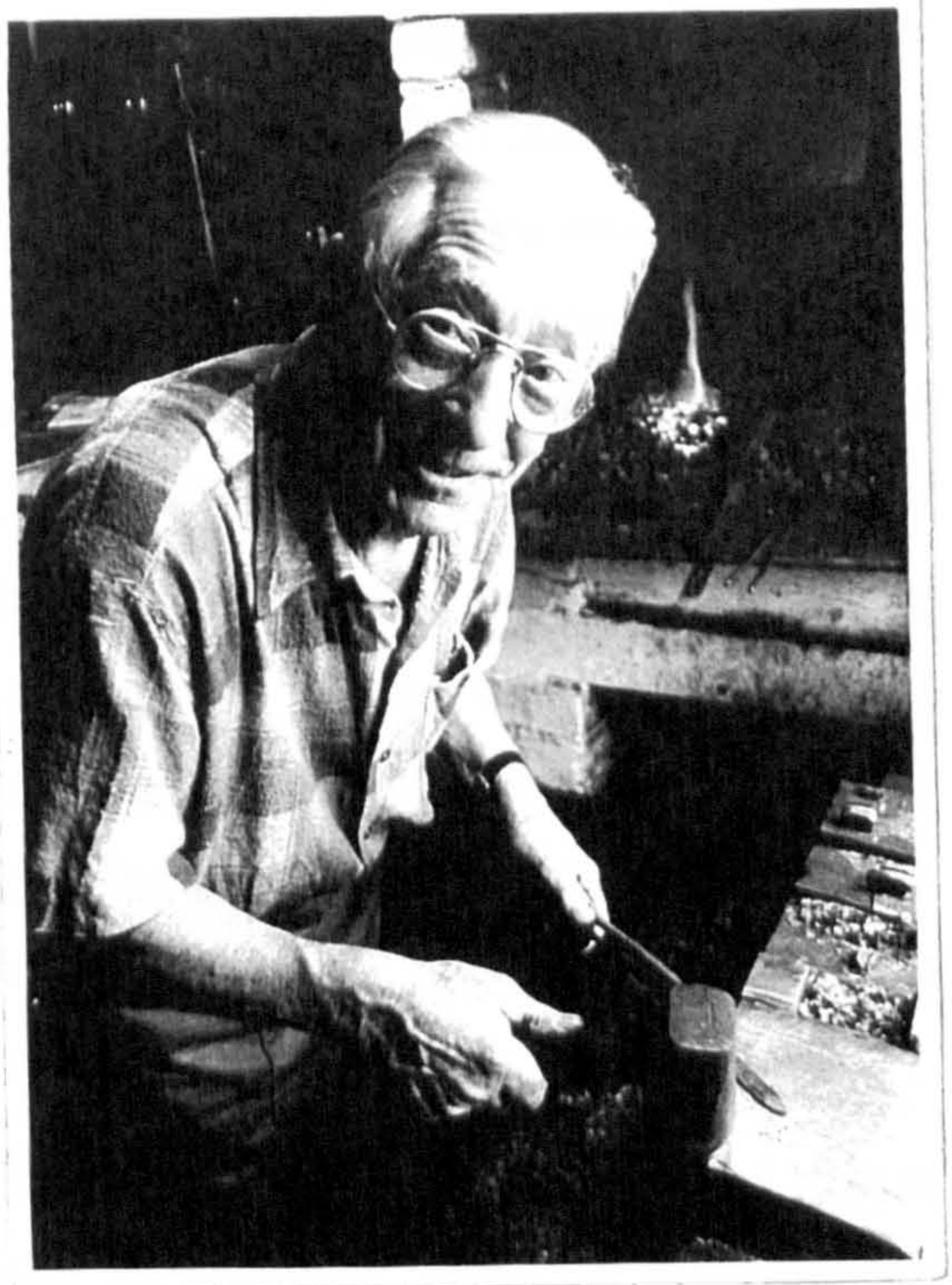


Figure 3.4 Albert Craven, forging pruning blades, late 20th century (Hawley Collection)

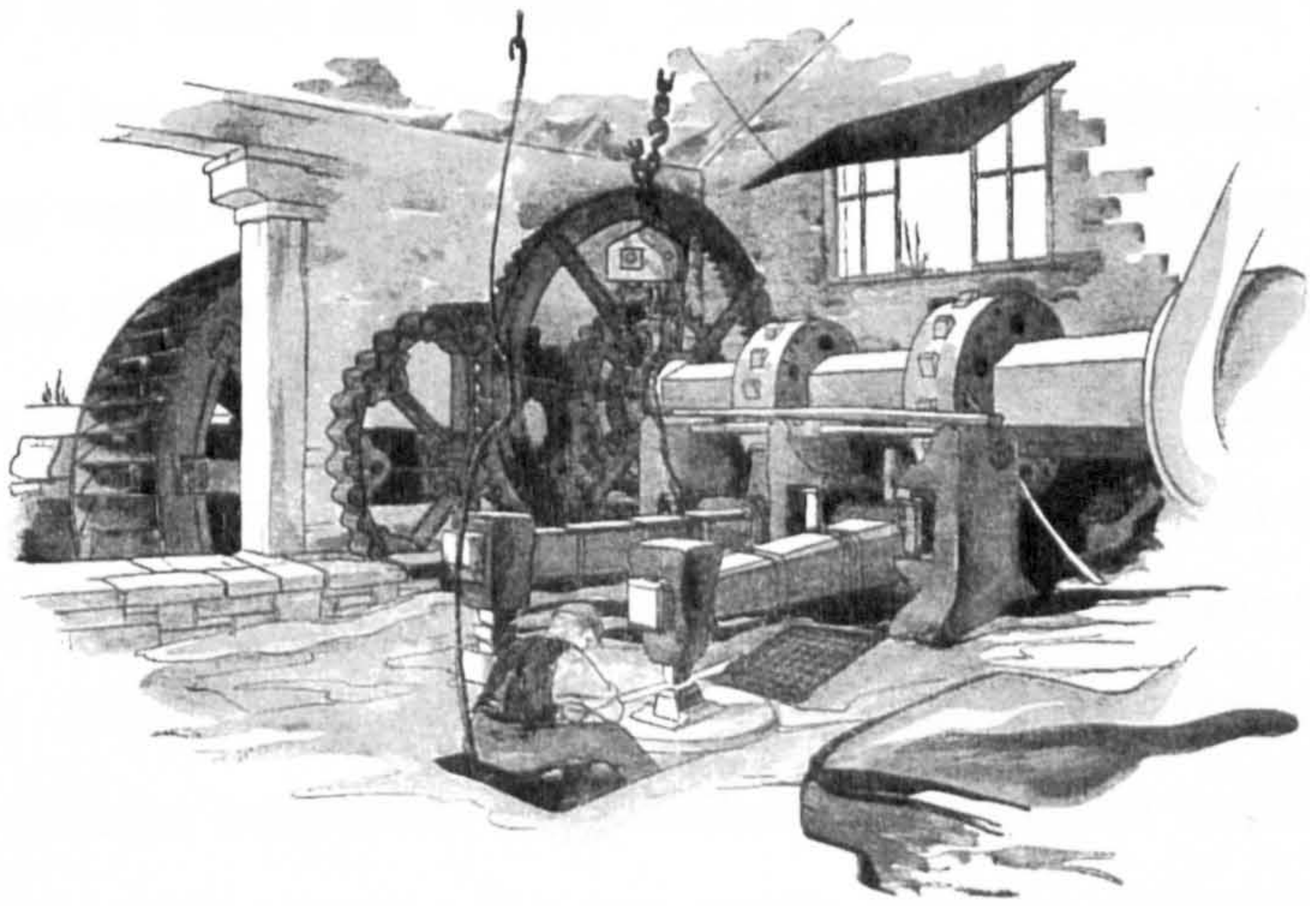


Figure 3.5 Forging scythe blades at Little London Wheel. Early 20th century (Hawley Collection)

Knife blades, and other cutting implements, are often found in archaeological excavations and many have been subjected to metallurgical examination to discover the type of metal used by the craftsman. The availability of suitable metal, the cost of the steel compared to iron and the characteristic of steel which takes and carries an edge have all dictated that knives from the mediaeval period were usually made of a composite material - iron with a steel edge.[39] This is not so surprising, but does have a bearing on work practices. The 1624 Act insisted that the blades had edges of steel so, taken with the information on sales of iron and steel, one can assume that the knife blades were of bi-metal construction, with an increasing amount of steel being used as the price, compared with iron, came down. Cutlers would acquire bars of iron and steel and then forge them together in whatever combination to produce a profitable object with a good cutting edge. The inventories of Sheffield cutlers from the later 17th century frequently mention iron and steel together. Lewis Nawl's inventory of 1697 records *'unwrought Iron & Steel'*.

Because steel was more expensive than iron, it was necessary to weld a steel edge to a back of iron. Tylecote shows possible combinations, based on archaeological evidence.[40] The costly steel could simply be applied in a thin layer to wrought iron, wired together and then heated and welded. More complex procedures involved making a sandwich of iron and steel. Steel could be wrapped round the iron core but in use, the steel edge would wear away, which would also happen if the steel were the narrow core wrapped with the iron for strength. The 'sandwich' of iron-steel-iron, which allowed the steel to be exposed, ground and sharpened, was a form which continued into the 20th century for the making of larger items such as scythes. In the manufacture of chisels, steel edges continued to be welded onto iron backs to reduce the cost of the item. Although the prices of iron and steel approached one another as the 17th and 18th centuries progressed, iron continued to be used for the bolster and the tang even into the 20th century. The two metals, iron and steel, were forged together resulting in a slightly different appearance on the back or 'pile' side of the blade, known as a 'cutler's thumb print'. This is caused because the iron, when glazed, will not take such a high finish. However, in earlier times, the piling of

different metals was necessary in order to produce a usable blade. This complexity often led to 'patterns' in the blade caused by the interface of different metals. In time, this became a desirable feature and 'pattern welding' is still done, though for decorative reasons.

The following description of blade manufacture comes from observation and oral recollections from the 20th century, but there is no reason to suppose that the 17th century cutlers could have worked in a different manner. The metal has to be worked at the same temperature and in the same way. Only the style of blade, bolster and tang might have significant differences. Small items such as pen and pocketknife blades could be forged single-handedly, that is by one man, but table blades and other larger items required two men - the forger and the striker. The biggest blades, such as scythe blades (two pieces of iron with a strip of steel welded between them), were increasingly forged at the water-powered tilt hammers. The use of less skilled labourers in hand forging, was a contentious issue for the Cutlers' Company, especially in their dealings with the scythesmiths.

In order to join the two metals together, a bar of iron and one of shear steel would be cropped at an angle; heated to a welding temperature, the ends dipped in a flux of borax and siliceous sand, overlaid and hammered. In the first heating of the metal, the iron near the joint would be shaped into a bolster. The forger would place the iron between two dies called 'prints' which he held in tongs or in a bent hazel twig and the striker would hit the top die with a 14lb. hammer. The forgers would have a range of prints for different sizes and designs of bolsters. The iron bar was then cut off on the aggon – an upturned chisel edge on the anvil - leaving a short section which was re-heated and drawn out as a tang.

The steel bar would also be cropped off on the aggon and this short section, called a 'mood', was heated and drawn out to form the blade. In the double-handed forging of table blades, the forger was in control of the work, determining the shape of the blade, while the striker 'drew out' the metal. The forger held the mood in tongs and hit it at the point where the striker was to follow. The two men worked in a closely co-ordinated rhythm of striking the metal to produce the correct shape. It is unlikely

that these processes of welding the iron and steel, forming the bolster, tang and blade, would take place on one knife sequentially. Probably the forger would weld the metals, form the bolsters and draw out the tangs of a dozen or more knives, before reheating them and drawing out the blades.

The final process for the forger would be to strike the maker's mark into the blade, either his own or that of the master for whom he was making the blades. This was done on the 'mark' side of the knife, near the bolster. If a knife is held in the right hand with the cutting edge to the left, the side of the blade facing is called the 'mark side'.

This description has been based on table blade forging and the processes that are required for the forging of scissors, shears, etc are slightly different, but the point here is to show that forging a cutting implement was a complex business. Observations were made of a blacksmith forging two pieces of metal, mild steel and wrought iron, into a blade-shaped bar.[41] The initial forging required five re-heatings of the metal to shape the iron and steel separately to equal size. This process took approximately ten minutes, the working of the steel requiring more effort. A further five minutes were needed and more reheating to weld and shape the two metals together. Producing a sandwich of metals took proportionately longer, even though a mechanical hammer was used, which eased the forger's work considerably. The time taken in this exercise gives an indication of the length of time required to produce bar for forging the blade. It must be remembered that several bars would have been heated and worked on at the same time and the output would have been increased if an apprentice or journeyman were assisting.

There is some evidence of the amount of work required from forgers. In 1742, an agreement was signed between Robert Broomhead and John Goodlad.[42] Broomhead would supply steel weekly, provide *'utensils and necessaries'* and would pay Goodlad 1s.4d to forge a gross of 'Jack penknife blades' at the rate of eight gross of good blades per week. John Goodlad therefore could earn 10s.6d for 1,152 forged blades. It is not clear what size a 'Jack' penknife blade is, so it is not easy to work out how long each blade would take to forge. However, because cutlers usually

worked only five days a week - not on Sunday or 'Saint Monday', Goodlad would need to make over 200 blades a day. Goodlad's agreement with Broomhead forbade him to make blades for anyone else without Broomhead's agreement, but it seems unlikely that there would be much time to do so.

This document is an interesting insight into several aspects of the Sheffield cutlery industry. It provides evidence for the specialisation by some cutlers in one process; it gives an idea of rates of pay and it demonstrates the system of subcontracting. Broomhead became a freeman in 1727 and the following year, Goodlad began his apprenticeship, both to the same master, Peter Simon. Goodlad did not become a freeman and though he was making knives, he could not sell knives for himself, having no mark with which to identify them.

Summary

Forging was the first stage in the production of knives, scissors, shears, etc and all other processes depend on the output of the smithies. Evidence suggests that smithies were often close to domestic premises in Sheffield town and were likely to have been additions to existing houses, squashed into courtyards and gardens. They would have been simple structures, giving one man and possibly a journeyman and apprentice sufficient room to handle the bellows, hold metal rods with tongs and wield hammers during forging. The hearth would be set against a wall beneath a chimney; to one side would be the bellows and adjacent would be the anvil stock - likely to be part of a tree trunk set into the floor - and surmounted with the 'stiddy'. Tools would be to hand and the cool trough would be inside the smithy, accessible to the forger without having to walk about with red hot metal held in tongs.

Documentary evidence supports the view that surviving examples of 19th century cutlery workshops with hearths are similar to those existing at the time of the 1672 Hearth Tax assessment. The intense agitation against the tax resulted in the Sheffield, Ecclesfield and Handsworth parishes listing the smithy hearths separately. It is therefore of some surprise that this evidence suggests a large number of craftsmen

were without their own smithy hearths. This has implications for the organisation of cutlery manufacture.

Grinding and grinding hulls

The Hearth Tax returns of 1672 provide evidence for specialist facilities, namely the smithy hearths, where the forging of blades was done. Possibly many smithies were general-purpose workshops with a hearth set in the corner and all the other processes were carried on in the same workshop. After forging, the cutler would grind the blades to give them a bright finish, remove any forging marks and put on the cutting edge. To produce a cutting edge, the forged blade is held against a revolving grindstone. Local fine-grained sandstones provided grinders with their stones and different sizes were used by various branches of the trade, for instance, the table blade grinders required one about four feet in diameter and ten inches wide. A hole was cut through the centre of the stone to fit it on an axle in a frame, originally using wooden wedges. However, these wedges could absorb water, expand and crack the stone. Later, the stones were attached with iron side plates and secured with a massive nut.

The grindstone was fitted on an axle in a frame and could be rotated by the hand or foot in the cutlers' workshops, or might be done at the water-powered grinding wheels on the local rivers. A grinding wheel consisted of the 'hull' which was the building housing the grindstones and the power of a water-driven wheel was transmitted to them by means of leather drive belts running over pulleys and wooden drums. The grindstones (sometimes called a 'grindlestone') were suspended in the 'trows' or troughs in front of the grinders' seating or 'horsin'. The number of trows varied, increasing or decreasing over time, and were rented out to craftsmen by the holder of the lease for the wheel.

The grindstone was suspended in a 'trow' or trough in which there was a few inches of water so that the surface of the stone was wet, reducing the temperature of the blade and cutting down some of the dust. As the stone became too smooth to be effective, it was roughened with a 'racing iron' and if it wore out of true, it would be

'dressed' back into shape by hitting the grinding edge with a hackhammer - a hammer with a chisel-like face. The stones were used until they were reduced to about half their original diameter, when they were sold on to other men requiring smaller stones.

Further treatment of the blade would take place in the same location. Early 20th century photographs show that at grinding wheels, either water or steam powered, the grinders sat in ranks, up to three men one behind the other. The men closest to and facing the windows were involved in the initial rough grinding of the blade. Behind him would be a man glazing blades. A 'glazier' or glazer was a wooden wheel of similar diameter, but with a two inches wide face, which was covered with leather. This 'head' was 'dressed' by being coated with fish glue and rolled in varying qualities of emery. Glazing would improve on the coarser finish left by the sandstone wheel and the blade may have further and finer glazing.

From the inventories, it is assumed that grinding was originally carried out in the workshop of the cutler using manpower. There is a tantalising reference to animal power. In 1545, in his will, John Birley of Attercliffe, yeoman, left to Hugh Swan his forging equipment and *' the horse wheel and harness'*.[43] It might be argued that this was connected with his farm, but since the reference comes immediately after the smithy tools and agricultural equipment was commonly called 'husbandry gears', it is reasonable to assume that this refers to a horse-driven wheel. Evidence for man-powered wheels comes from the London cutlers. In the 1420s, shearsmiths within the Drapers' Guild were accused of charging too much for their goods. As a result, their wages were fixed and the shearmen themselves were to provide two men to turn the stone.[44]

The evidence from inventories for grinding practices shows that some cutlers had grinding capacity within their workshop and that others had tools and material at the water-powered wheels on the rivers. In Table 3.3 examples of inventories from the end of the 17th century indicate the type and value of grinding equipment found in the smithies, general workshops and that specifically mentioned as being 'at the wheel'. The values given to these tools and pieces of equipment seem modest. The craftsmen were able to grind blades within their smithies and workshops using a grinding wheel

set in a frame and turned by a handle or by the foot and similarly, could glaze the blades also. It is rather harder to appreciate the organisation which allowed a craftsman to leave grindstones and bands, etc at a wheel, if grinding was done as needed, on a part-time basis, by the day or week.

Name	date	craft	equipment and any specified location
John Lord	1691	cutler F1682	In the Smithey & att ye Wheele: Certaine Smithey tooles & certaine Wheele gaye [gear] £5
Richard Milner	1692	[cutler] F1645	at the parker wheele: Two axeltrees one rough-stone Two wheelebands & a glaser, £1
John Parkin	1692	cutler -	At the Wheele: 2 axletrees 1 grinding stone one band one hack Hamer, 8s.0d
Thomas Kay	1693	cutler F1686	Smithy C: a glasier & furniture to it, 5s.0d
Robert Matthewman	1694	cutler F1670	Smythie: 1 grindlestone
John Pearson	1694/5	cutler -	Smithey: a Grinding stone
Thomas Matthewman	1695/6	cutler F1653	a ffoot glazer, 6s.8d
Michael Fox	1697	cutler F1672	At the wheele: 3 Axeltrees 2 Glasers 1 doz. Stones 15s.0d; a wheelband certain Puleys Husslements 5s.0d
William Sherman	1699	cutler -	Cellar: 2 grinding stones and the frames, 2s.0d
Elias Tricket	1700	cutler F681	Wheel Tools: a hack hamer Axletree band & pulley, 3s.6d
Edward Hellifield	1690	filecutte F1682r	Smithey: 3 Grinding Stones 1 trow 8s.0d
Joseph Handley	1693	filemaker -	Smithy: 3 grinding stones & trough to ym, 9s.0d
Joseph Brammall	1698	filesmith F1682	A grindlestone & well [wheel?]turne, 3s.4d
Samuel Roberts	1698	filesmith F1682	Shop: 2 stones & 3 Axle trees, 6s.0d; Smithy: 1 wheele band 1 Axle tree a horsin 3 stones & 2 pulleys, 18s.0d
Edward Oakes	1690	scissorsmith F1672	Wheel: 3 pulleys, 3 Axeltrees, 2 wheel-bands & a glazier, 12s.0d
Joshua Russell	1693	scissorsmith F1685	certain wheele tooles: a Stone Axletree a Glazer 2 wheele bands, 8s.6d; a stone Pulley 3 pair of [...] and a wheele kitt, 12d; a wheele chymney a had hammer [hackhammer] and a hammer, 20d; Wheele bands, 2s.6d
William Colley	1696/7	scissorsmith F1670	At ye wheel: A Grinding Stone & a Glazier with certaine other tooles belongeing, £1
William Blythe	1665	scythesmith -	At the wheel at Loxley; 14 new stones, 23 worn stones, £4

Table 3.3 Details of grinding equipment from 17th century inventories

After forging, the second main process of cutlery manufacture is putting an effective cutting edge on the blade, or in the case of files, ensuring the surface is completely smooth and flat prior to cutting the teeth. The effectiveness and the retention of a cutting edge depend on its manufacture - the quality of the metal, the hardening, tempering and the grinding processes. There are still hand grinders working in Sheffield in the 21st century and watching them shows how 17th century men might have worked.

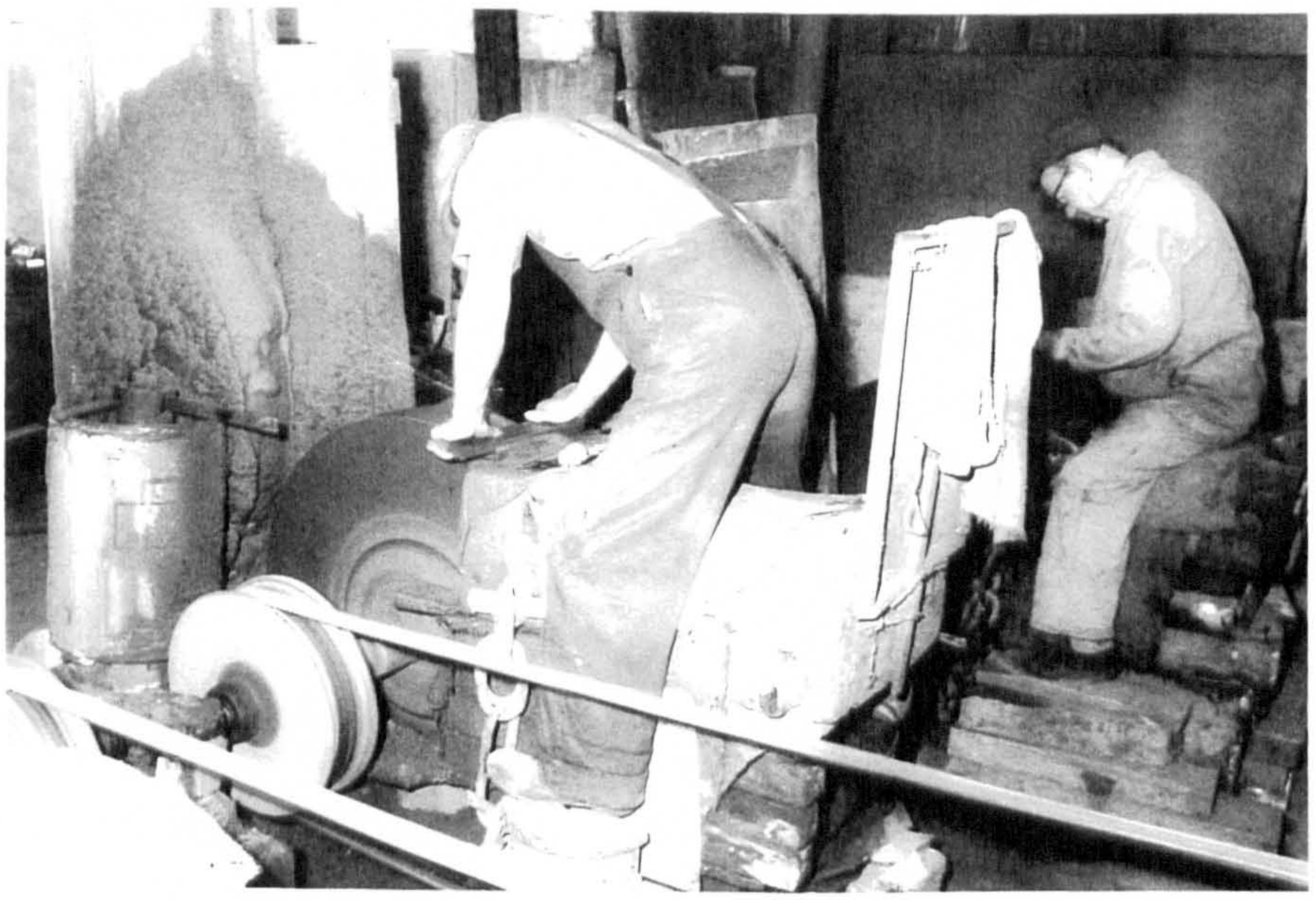


Figure 3.6 Grinding butcher knife blades, 1970s (Hawley Collection)

The grinder sat astride the 'horsin' or seat holding the blade in a 'flatstick' and resting his elbows on his knees. The flatstick is a piece of wood which protected the grinder's fingers from the stone and heat of the blade and helped him to control the grinding. It also kept the blade flat while he did the first rough grinding on both sides of the blade. In order to exert more pressure on the blade, the grinder might stand and put his whole body weight on the blade. Small pocket and penknife blades were held in a holder resembling a pair of pliers and the grinders' fingers were protected

from the heat by a 'petch', a small wad of leather, used to press the blade to the grindstone. The grinder who gave the knife blade its cutting edge also ground the bolster of a table knife, when decorative features might be added. A skilful forger could produce blades requiring little work except for the cutting edge and the better the forger, the faster the grinder could work since he had less to do correcting bad workmanship.

The grindstone rotated away from the grinder. The faster the rotation, the faster the grinder could work, removing marks from the surface of blade caused in forging, but increased heat in the blade caused by friction could damage the temper of the metal and increase the danger of the stone breaking. Discussion with a file grinder reveals that a forty-two inch diameter sandstone grindstone would revolve at 250-300 rpm, giving a surface speed of 3,000 feet per minute. This was considered the optimum, though they could be driven faster. The diameter of the grindstone varied according to the size of the blades being ground. Scythe blades required six-foot diameter stones, which unlike other stones, rotated *towards* the grinder, because if it rotated away from him, the blade size and the pressure exerted could drag the grinder over the top of the stone.

Continental grinders adopt different working positions and appear always to have worked on stones which rotated towards them. German grinders stand behind a wooden panel, resting slightly on a small seat, using very large diameter stones even when grinding small blades. The blade is pressed against the stone by the action of the knees behind the wooden panel.[45] The French grinders can still be observed at Thiers adopting a completely different position. Here the grinder lies on a board above the grindstone and pressure exerted on the blade is traditionally counterbalanced by a dog, which lies on the back of his legs !

The rate at which a grinder could put an edge on the blade can only be estimated. In 1999, a 96 year-old pen- and pocket-knife grinder described being required to hand-grind five 3½-inch blades in seven minutes.[46] However, a forger could produce such blades faster than a grinder could work, though of course, this depends on how much grinding was done to the blade. Grinding a sharp edge to a blade is only a small part

of the process, which also removed the forging marks from the surface of the blade and the back edge, giving it a bright finish. This other work is largely 'cosmetic' and it is not known how much was done in the 17th century. Surviving blades are often in poor condition or have been cleaned and restored in modern times. In an attempt to discover why Sheffield became such a major centre for cutlery manufacture by the 18th century, the sources of raw materials have been discussed, with the conclusion that Sheffield had no advantage over other medieval cutlery centres outside London. However, the numbers of water-powered grinding wheels have always been cited as a crucial feature, which allowed Sheffield to overtake all other centres. Waterwheels can provide power to several grindstones at once, thus increasing the output. Waterpower can drive the grinding wheels at a greater speed for longer periods than that achieved by man or animal power, though it must be remembered than waterpower was not cheap, free or continuous.

There is documentary evidence for water-powered grinding wheels on the Sheffield rivers by the early 16th century,[47] as well as the details given in later 17th century inventories. Maps have been constructed from such information summarised in *Water Power on the Sheffield Rivers,* [48] showing the distribution of the various water-powered sites. [Appendix B] These maps demonstrate that there were relatively few water-powered grinding wheels until the major expansion in the 18th century, when Sheffield was overtaking London as the main English cutlery centre.

The maps show the five main Sheffield rivers being used for waterpower and that by the end of the 18th century, almost every available location had been occupied. The maps have been drawn to show the sites for which there is documentary evidence in the following periods - pre-1581; 1582-1630; 1631-1680; 1681-1730 and 1731-1780. They show the distribution and the different uses of the sites - blade grinding (g); corn milling (c); metalworking, including iron forges, tilts and lead working (m) and other uses such as papermaking, fulling and silver manufacture (o). Although there were water-powered sites in the 12th century, the start date of 1581 has been taken because this corresponds to the date of a published rental of the Earl of Shrewsbury and fifty-year periods take this exercise to 1780, just

before the introduction of steam power in Sheffield. Some sites also changed their function during the 200 years from 1581-1780. It is acknowledged that many of the sites were established before the earliest surviving documentary data.

period	blade grinding (g)	corn-grinding (c)	metal-working (m)	other (o)	total	total percentage increase	percentage increase in blade grinding wheels	blade grinding as a %age of the total
to 1581	15	10	3	2	30	0	0	50
to 1630	21	12	7	1	41	36	40	51
to 1680	28	15	12	2	57	39	33	49
to1730	48	17	13	3	81	40	71	59
to 1780	78	18	27	10	133	64	62	59

Table 3.4 The number of water-powered sites in each period, pre-1581-1780

Table 3.4 shows the establishment of sites based on the earliest surviving documentary reference and it must be emphasised that this analysis will not show the complete picture. The documents relating to the water-powered sites include rentals, leases and the field books of the Fairbanks, a mid-18th to mid-19th century Sheffield family of surveyors. It is acknowledged that the history for some sites is fragmentary, but for this exercise, there is enough evidence to estimate the number and distribution of sites available to the cutlers. Analysis shows the difference in the rate of expansion of waterpower for grinding, even though water-powered grinding wheels only accounted for 50-60% of these sites.

Table 3.4 shows that the increased capacity in all water-powered sites rises in the fifty-year periods initially by 36%, 39% and 40%, but then with a huge leap of 64% in the period 1730-1780. Grinding wheels accounted for approximately half the water-powered sites in the 100 years from 1580-1680, after which the proportion increases to 59%. The early expansion in grinding capacity is in line with the overall increase but it peaks earlier, in the period 1680-1730, with a 71% increase. In the period 1730-1780 which saw the greatest expansion of waterpower overall (64%), the increase in grinding wheels is slightly lower (62%). However, the final period, between 1730 and 1780, saw a massive 108% increase in water-powered

metalworking capacity. During the 18th century, many sites were also increased in size. If the evidence is broken down into five-year period and for the different rivers running through Sheffield, then the activity in building water-powered sites is even clearer.

	Porter				Rivelin				Loxley				Sheaf				Don				
	g	c	m	o	g	c	m	o	g	c	m	o	g	c	m	o	g	c	m	o	
1581	4	-	-		1	-	-	-	2	3	-	-	4	4	-	1	4	3	2	1	30
1585	-	-	-		-	-	-	-	-	-	-	-	-	1	1	-	-	-	2	-	4
1590	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1595	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1600	2	-	-		-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	5
1605	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1610	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1615	-	-	-		-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
1620	-	-	-		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1625	-	-	-		-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
1630	-	-	-		-	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	3
1635	-	-	-		1	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	3
1640	-	1	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1645	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1650	1	-	-		-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	2
1655	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1660	-	1	-		-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	3
1665	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1670	-	-	-		-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
1675	-	-	-		-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	2
1680	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1685	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
1690	-	-	-		1	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	3
1695	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1700	1	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
1705	-	-	-		-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	1	3
1710	-	-	-		-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
1715	-	-	-		1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2
1720	-	-	-		3	-	-	-	3	-	-	-	2	1	-	-	1	-	-	-	10
1725		-	-		1	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	3
1730		-	-		1	-	-	-	2	-	-	-	-	-	-	-	-	1	-	-	4
1735		-	-		3	-	-	-	2	-	-	-	1	-	-	-	1	-	-	-	7
1740		-	-		2	-	-	-	1	-	-	1	2	-	-	-	1	-	-	-	7
1745	2	-	-		-	-	-	-	1	-	-	-	1	-	-	-	-	-	2	1	7
1750	2	-	-		2	-	1	-	1	-	-	-	1	-	-	-	-	-	2	1	1
																					0
1755	2	1	-		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
1760	-	-	1	-	-	-	-	-	-	-	-	1	1	-	-	-	2	-	-	2	7
1765	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1775	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2
1780	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	2
total	**14**	**3**	**2**	**-**	**18**	**1**	**2**	**-**	**18**	**3**	**5**	**3**	**15**	**7**	**9**	**2**	**13**	**4**	**8**	**7**	**133**

Table 3.5 The number and type of 'new' water-powered sites, based on available documentary evidence. Maps of the sites are in Appendix B

Table 3.5 shows grinding wheels dominated the rivers Loxley and Rivelin. These two

rivers flowed from the north-west of Sheffield and were accessible to the cutlers of Bradfield parish, especially Stannington, and the cutlers of Nether Hallam in the hamlets of Walkley, Crookes and Malin Bridge. The corn mills were early sites on these rivers, while other uses for waterpower appeared towards the end of the 18th century. The evidence of the increased number of water-powered grinding wheels suggests the expansion of cutlery activity in these areas after 1700.

The river Sheaf had the most varied sites, almost equally divided between corn grinding, metalworking (especially lead) and blade grinding. The headwaters of the Sheaf in the south were used for lead works and corn milling, but grinding wheels were situated further downstream towards Sheffield. Activity on the Sheaf in the 17th century was in the development of metalworking sites, switching to the development of grinding wheels in the 18th. This is perhaps an indication, together with the evidence seen on the Loxley and Rivelin, of a shift in manufacturing emphasis to full-time grinding. Most of the grinding wheels were closer to Sheffield, where the river ran close to the hamlets of Heeley and Little Sheffield, where cutlers had lived from at least the early days of the Cutlers' Company. The river was also the northern boundary of Norton parish and was accessible to the scythe- and sicklesmiths, who congregated there.

The river Porter had the fewest sites, though it had some of the earliest known blade grinding wheels in Sheffield. It too appears to have expanded its grinding capacity in the mid-18th century. The Don is the largest river in Sheffield, collecting the water from the other rivers and flowing from the north before turning northeast at its confluence with the Sheaf near the centre of Sheffield. Like the Sheaf, it had more metalworking sites, but unlike the Sheaf, they were all concerned with ferrous metals. Wadsley to the north and Attercliffe to the east had early iron forges and the early Don grinding wheels were in the east end, serving the cutlers of Attercliffe and hamlets in Brightside Bierlow. The main activity in site construction on the Don was in the 18th century, with increased use of the river closest to the town centre.

Summary

We know from the inventory evidence and from the increasing number of water-powered grinding wheels that grinding was part of the manufacturing process of cutlery. Evidence from inventories also suggests many cutlers had grinding capacity within their workshops and/or smithies, since relatively simple equipment and workspace were needed to grind a blade. An abrasive stone is rotated and the blade held against it, which is basic technology - itinerant knife sharpeners show how simple the equipment can be. Waterpower was not essential for grinding and Sheffield cutlers could have operated in the same way as cutlers all over the country who ground their blades using manpower. Centres such as Thaxted and Salisbury, had little option but to use manpower or horsepower and no firm evidence has been found for water-powered blade grinding in London.

The rivers around Sheffield were being used for corn milling from at least the 12th century and for centuries, Sheffield cutlers had relatively few water-powered grinding wheels, before the capacity expanded dramatically in the 18th century and led to specialisation among cutlery craftsmen. The water-powered grinding facilities are considered to have been a major contributory factor in Sheffield's dominance of the cutlery markets. The one feature, which links Sheffield with other renowned cutlery centres across Europe, is its access to waterpower. Thiers cutlers in France made use of the fast-flowing river Durolle, while the cutlers and sicklesmiths of Sölingen and Remscheid in Germany were fortunate enough, like the Sheffielders, to have several rivers at their disposal. Appendix D shows the water-powered sites in the Sölingen area, which were as concentrated as in Sheffield, and the Thiers sites. The point at issue here is that the Sheffield cutlers survived and expanded during the three centuries from Robert the Cutler in 1297 to the end of the 1500s, when cutlers were regularly appearing in the manorial court records, and they did it without much waterpower to assist in their work. The existing water-powered grinding wheels were probably sufficient for the workforce and the cutlers appreciated such facilities. Waterpower was not the reason for the initial development of Sheffield's trade but it was certainly a bonus, which allowed for the 18th century expansion. The

distribution of the water-powered sites is also an indication of the relative importance of different communities of cutlers, showing how there was a shift to outlying communities, which turned from being predominantly agricultural to being manufacturing centres.

General workshops and assembling

The process of assembling the cutlery, of attaching the handles, putting together scissors or cutting files, required simple tools and a small workspace. The probate inventories provide information about the workplace or workshop ('shop' as it was often called in Sheffield) and shows that assembling could be done in the house, in an upstairs chamber, as well as in the place described by appraisers as the 'smithy'. The tools required for assembling, such as hammers, saws, vices, workboards, also appear in these probate inventories.

CUTLER IN DOMESTIC WORKSHOP.

Figure 3.7. Cutler's workshop, early 20th century.[49]

Name	date	craft	specified workplace	tools
Michael Fox	1697	[cutler] F1672	small chamber	2 old vices & a saw, 18s.4d
Thomas Kay	1693	[cutler] F1686	smithy chamber	a vice, 13s.4d; working tooles and Shruf brasse, [?] 15s.0d
Charles Stewardson	1694	[cutler] F1683	small chamber	7 vices a Glazier 6 pair of boring Stoopes [?] 1 hand vice & other small tooles, £4.10.0d
John Parkin	1692	cutler -	smithy chamber	a Vice and Working tooles,, 14s.0d
Robert Tichill	1695	cutler F1673	smithy	3 viacess [vices] & working bordes & working tooles 3 sowes [saws] 5 hamers, £1.10.0d
William Sherman	1699	cutler	work chamber	5 vices & 4 sawes, 18s.0d; a skrewthrow [?], 3s.0d; a foot throw, 1s.0d; a little glazer & 3 workboards, 2s.0d
Joseph Brammall	1698	filesmith F1682	smithy	7 cutting stythyes & their stocks, £3.10.0d
Samuel Roberts	1698	filesmith F1682	shop	2 steeled stidies £1.8.0d; 2 mettel stidies, 2s.0d; 4 stocks, 4s.0d; 13 hammers, 4s.6d

Table 3.6 Details from late 17th century Sheffield inventories

A workbench would have been positioned under the window of the workplace. Cutlers required few tools; saws for cutting up handle material, vices for holding their work, drills or boring tools for making holes for rivets and tangs, hammers for rivetting and work boards. These were small wooden trays used to hold the parts of the knives, etc which were being assembled. Some items are unknown – shruff brass, skrewthrow and foot throw, though the latter might refer to boring tools. It is likely that men with more than one set of tools had journeymen or apprentices working with them. The following sections describe in more detail the specific processes relating to the manufacture of different types of cutlery.

Work of the cutlers, scissorsmiths, shearsmiths and others

Observations of 20th century craftsmen working in small workshops, together with the information from probate inventories, the work practices of the late-17th century craftsmen in Sheffield can be suggested. Specific details of hafting and assembling will be given for the different crafts. One underused and undervalued resource, dating from the early 19th century is the Price List or 'statement'. Covering every facet of production, the statements give the wages paid for the processes in cutlery manufacture, agreed between masters and men. Produced in very small numbers and were restricted to the men in that specific trade, they not only have the rates paid to grinders, forgers, etc. but provide information for the reconstruction of manufacturing processes. [50]

The craft of the cutlers

Figure 3.8 Late-17th century knife, showing the mark of Robert Bocking, F1689 (Courtesy of Mr Ken Hawley)

There are no surviving descriptions of the work of a cutler for the late-17th century. It has usually been taken for granted that the cutlers were trained in all the processes of manufacture - forging, grinding and hafting - though nowhere does this seem to

have been spelled out. This assumption is based on the early 18th century apprenticeship details, which specify if particular processes were to be taught or not.

In the early years of the 18th century, some indentures contain details other than the provision of maintenance and the odd reference to schooling.[51] In 1699 John Yates undertook to teach Luke Whittington, a poor boy, ' *to work in an Engine, Oxford Cutt only'*, though it is hard to understand this reference. Yates was Whittington's third master, having already served over ten years' apprenticeship, so it is possible that he was being given specialist training. It is not clear whether the instruction refers to a style of knife or a particular type of machine. In 1713, several masters were stipulating aspects of work, which one might have assumed were standard practice. For instance, Josh. Brooks was apprenticed to Enoch Sanderson '*to make knife blades'*; Peter Haward took John Platt and would '*learn him to make and grind'* and in 1714, Ed. Newton took Richard Cooper *'to be instructed only in grinding and glazing knife blades'*. In 1713, Henry Downend would allow Edward White ' *a day in a fortnight to make fork blades'* and in 1715, Jer. Paramour would instruct Robt. Gibson '*to make fleams'*.

Sheffield cutlers made knives including table knives, folding knives, razors and after about 1670, forks and spring knives. Not until the later 18th century were men specifically termed a razorsmith or a forkmaker, etc, but it seems that the men who specialised in making these items had been trained as cutlers. The 1680s Storehouse data shows that some cutlers were making very specific types of knives, though it is not always apparent what they were and there is no information about such specialisation in the cutlers' apprenticeship lists. From the Storehouse records, we know that the newly trained cutler, John Winter (F1683), made ivory knives which he sold for 15s.0d. per dozen, though Richard Downes (F1668), was selling his ivory-hafted knives for only 4s.0d. per dozen. More humble knives were made by Obediah Barlow of Sheffield (F1667), which were described as 'rams horns' and priced at 2s.6d a dozen as were his 'tyn ends'. James Wilkinson (F1673), similarly made 'brass ends' for 2s.6d a dozen. These descriptions probably refer to knives with horn scales or with endcaps of brass and tin. Other descriptive phrases include knives with iron

hafts, splint hafts, twist hafts, lattin hafts, turned hafts and hafts of tortoise, sheepshanks, blackwood and tup horn. However, it is not possible to guess the types of knives described as loggerheads; great tower heads, brass dyalls and virginias. Also of interest in the Storehouse records were the cutlers making 'steels' and 'pocket steels'. Joseph Yates and John Trickett made steels, which they sold to the Storehouse at 16d. a dozen, while John Parkin's pocket steels sold for 15d. a dozen. Trickett also sold cheaper steels at 7d. a dozen, three dozen of which were sent to London. Steels were used to sharpen knife blades and the manufacture of 'pocket steels' denotes the need to sharpen personal knives.

The penknife makers listed in the Storehouse records included young men such as Joshua Wigfall (F1678), Thomas Lemmons (F1680) and Matthew Fox (F1672). The prices for their knives varied from 3s.0d. to 6s.0d. a dozen. At this time, penknives had small, sharp blade set rigidly into the end of the haft, which was sometimes made of ivory or other fine materials. What today is called a 'penknife' was then referred to as a 'spring knife', i.e. a folding knife operating with a spring which held the blade open or closed. Some of the spring knife cutlers were Robert Mattheyman (F1670), John Hobson (F1668) and John Webster, who also made penknives, with prices varying from 2s.6d to 4s.0d. per dozen. These were certainly men with an eye for new things. European museums have examples of early spring knives, the majority dating from the second half of the 17th century, but it has not been possible to identify clearly the origin of this design of knife. Its origin is probably European, but it was introduced to Sheffield cutlers sometime before the 1670s - this being the earliest dated evidence of such knives in Sheffield.[52]

Thirty-two pre-1700 probate inventories survive for Sheffield cutlers, though two have no references to tools or equipment. The evidence suggests that specialisation - in terms of processes, not products - might have already begun. Below is a summary of the information relating to the making of knives.

details	number	details	number
having a specified workshop/chamber	11		
having a smithy hearth and forging tools	25	having iron and/or steel; other metal	8
having equipment on site for grinding	6		
having grinding equipment at a wheel	4		
having tools for assembling knives	19	having hafting material	7
having unfinished stock	8		
having finished stock	10		

Table 3.7 Table summarising the information in thirty cutlers' probate inventories, pre-1700.

Most of the cutlers had forging facilities, which included bellows, stocks, anvils, hammers, tongs and cooltroughs. Some cutlers had several anvils and hammers, suggesting more than one person worked there; probably the cutler's apprentices and/or journeymen. John Parkin (d.1692) had *'a paire of bellows 1 dubble bellows 2 stythes 2 stithy-stocks 2 cowtroughs'*. Elias Trickett (d.1700) had two smithies, each with an anvil and stock, for which he was taxed in 1672. In 1681, Elias' son, Elias junior, became a freeman and probably worked alongside his father. Elias Trickett, father or son, appears in the 1680s Storehouse records selling forks for £1 a gross, at the rate of about a gross a week. It appears from Table 3.7 that five of the thirty cutlers did not have the capacity to forge blades. If these men wanted to forge blades, would they use someone else's hearth and did they also borrow the tools ? Did they simply concentrate on assembling and buy in forged blades, which would suggest that by 1700, there were specialist forgers. Finally, did any of these craftsmen who were freemen, simply contract out their blade manufacture ?

Only eight of the twenty-five smithy-owners had stocks of metal - iron and steel. For instance, John Bullas of Attercliffe (d.1695/6) had '*certain Iron, Steel, wire and assidue 15s.0d'*. George Bullas (d.1692) had more varied metal *'18 stone of iron, £1.10.0; 4 stone 6 pounds Englishe steel, 10s.4d; 28 pounde London metell, 11s.6d'*.

Perhaps the other cutlers had run down their stock or sold it on when they were unable to work.

Only a third of the cutlers' inventories specified grinding equipment, either on site or at a water-powered wheel, which is stronger evidence for specialisation in production processes. Together with the expansion of water-powered grinding wheels from the beginning of the 18th century, this evidence suggests that increased grinding capacity was being exploited by men who were turning away from the other production processes. It must be repeated however, that there is no way of the knowing the extent to which knives were ground. The frequent presence of glazers in inventories does suggest that finishing and polishing the knife blades was carried out. A glazer or glazier was a wooden wheel with the face covered with leather, which was dressed with wax and/or very fine emery. This polished the blade to give a fine finish. The more common sort of knives may not have been ground at all, but simply sharpened on their edge on a whetstone.

The assembling of knives, either hafting the table knives, or the complex assembly of spring knives and razors, required hammers, files, parsers for boring, vices and small stiddies. All the parts of the knives to be assembled were generally grouped on workboards. The raw material for hafting would include natural material such as wood, ivory or horn, together with wire for rivets. Non-organic materials were also used; metals such as silver and brass and minerals like agate, crystal and jasper appear on high-quality knives. Nineteen cutlers had tools consistent with assembling knives, but only seven had any hafting material - again, the stock may well have already been passed on before death. One interesting inventory had evidence of a hafting process whereby horn was cut and then 'pressed' to give raised designs and patterns on the surface of the scales. Joshua Barnsley of Longley, (d.1696) had *'2 pressing vices and 3 other vices, £5; 22 pair of presses, £2/4s.0d'*, but no hafting material. The equipment was in his smithy, where the horn would have been heated to soften it, which was then pressed between two metal dies. This practice continued well into the 20th century, when pressed horn was used for razor and spring knife .

Summary

The information from inventories and the Storehouse records indicates that the late-17th century cutlers had smithies and work chambers or shops. The evidence suggests that some were possibly concentrating on one or more of the manufacturing processes and many were specialising in making specific types of knives. The late-17th century cutlers demonstrated their versatility by making newly introduced items such as table forks and spring knives and some were certainly capable of using tortoiseshell and ivory. A picture is presented of small workshops, simple tools and a complex organisation, with indirect evidence of sub-contracting parts of the manufacturing processes.

The work of the scissorsmiths

The scissorsmiths had been in the Cutlers' Company from the outset in 1624 and appear to have been concentrated in Sheffield town centre and the eastern villages and hamlets, particularly Attercliffe and Darnall. There was a clear distinction made between scissors and shears, which were both cutting implements with two opposing blades. In scissors, the blades pivot 'on a pin', but the blades of shears are linked by a springy iron bow. The scissorsmiths and shearsmiths were always seen as two entirely separate trades, though confusion could arise over such items as tailors' shears which were large scissors.

Scissors consisted of iron and steel, each half having a blade and 'bow' for the fingers, with the shank between and to form all of the parts, the scissorsmith had to work with metal heated at his hearth. In common with cutlers, the scissorsmiths required a forging hearth, with an anvil, hammers and tongs, plus grinding facilities, but the assembling, or 'putting together' of the scissors, is different in that no hafting material is required.

The forging of each half of a pair of scissors was done by heating a rod of iron and, using dies set into the anvil, shaping the blade, shank and bow. It is not possible to describe the method by which the steel was applied to iron. Surviving examples of

18th century scissors suggest that a thin strip of steel was laid onto the iron blade, not 'sandwiched' between two parts of iron, as is done with larger cutting implements. This forge welding of the narrow cutting edge of steel on to the rest of the scissor was done at an initial stage in the forging process.

The bow can be formed in two ways. The more usual way in the 17th century was by bending round the end of the iron rod to form a circle. This could then be welded to the shank giving a 'shot' bow. Often, the end of the bow was not welded; a style common in continental scissors until the 20th century. Alternately, and seen on later small scissors, the bow was formed by widening out a hole punched in the end of the shank. It is clear from the brief description that considerably more time was involved in the forging of scissors than in the forging of a knife blade. The final process of forging was the matching of the two halves and 'setting' the blades. 'Setting' gives a slight twist to the blade, which is necessary so that the blade edges will keep 'on cut' as they pass each other throughout the length of the blades.

The blades are ground prior to putting together. Scissor assembly, called 'putting together', is very skilled work. The shanks are drilled and the two opposing parts are riveted together, then the bows and shanks are polished and may be decorated using fine files.

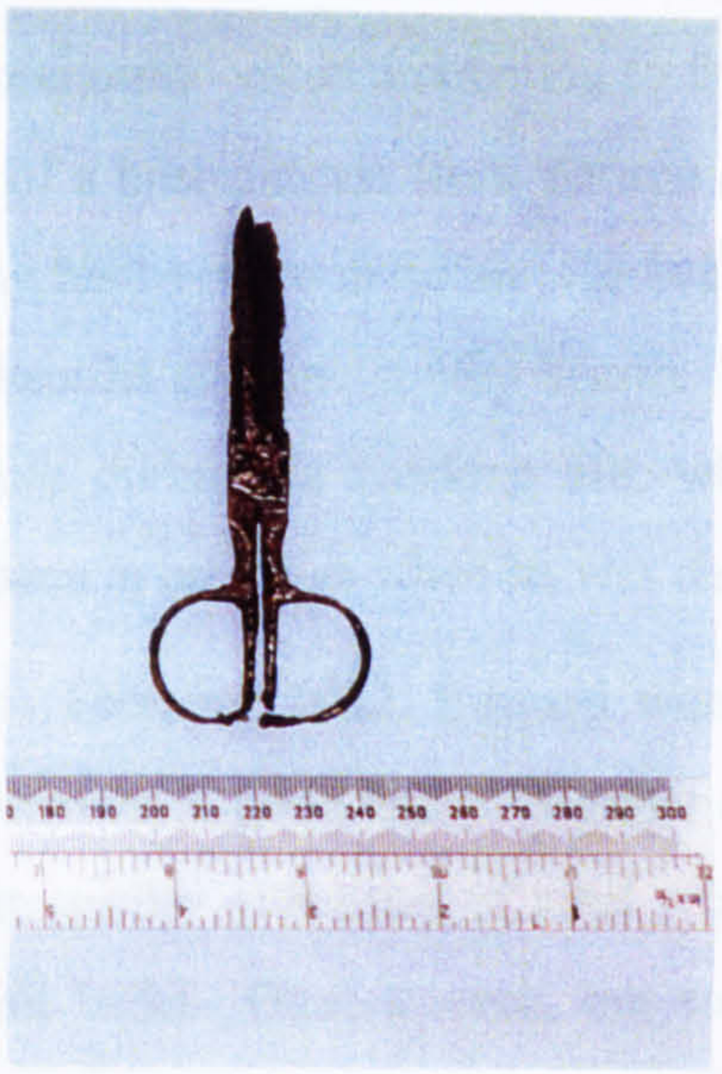


Figure 3.9 Late-17th century scissors (Courtesy of Mr Ken Hawley)

Only seven pre-1700 inventories survive for Sheffield scissorsmiths. Two of the men did not have a smithy; in fact, their inventories hardly makes any reference to the trade, except that William Burley (d.1696/7), left 10 gross of scissors valued at £5. Joshua Russell (d.1692/3), had a smithy with two hearths and a complement of tools for each - bellows, stock, anvil, cooltrough, hammers and tongs, while Francis Brownell (d.1698), had two stocks and anvils in his smithy, for which he was taxed in 1672, as did Thomas Hunt who died in 1696.

Four of the seven scissorsmiths had equipment and tools for grinding and glazing, two at an unspecified 'Wheel'. Only one inventory mentions files and only two had very small amounts of iron and steel. The amounts of metal used by scissorsmiths would generally have been greater than that used by cutlers, since scissors were made totally of metal. The amount of iron and steel for scissorsmiths can be demonstrated by one man's purchases from the Cutlers' Company Storehouse.

The Storehouse records show scissorsmiths were selling their wares to the Storehouse at prices ranging from 9d. to 20d. per dozen and generally the Storehouse paid out about £35 a week for scissors. One scissorsmith was tracked through the records for a short period to try to ascertain his production. Edward Brittlebank was chosen simply because his name was easily identified in the lists of scissorsmiths doing business at the Storehouse - often amounting to fifty or more a week. Edward Brittlebank was the son of a husbandman from Thorpe and was apprenticed to John Radcliffe in 1646, gaining his freedom in 1656. He lived in Sheffield, being taxed in 1672 for two domestic hearths and one smithy hearth. He trained his son, Richard, and five other apprentices during his working life, which continued into the late 1690s. He would have been in his fifties when he was dealing with the Storehouse.

From November 1681 to February 1682, Edward went to buy iron about once or twice a week, buying between 2 stone and 3 ½ stone and spending six shillings on average. He also bought smaller quantities of steel - between 3lbs and 7lbs, which cost him between 7d. and 1s.5d. Once a week, but sometimes more frequently, he sold the scissors he had made, in varying amounts from six dozen (72 pairs) to one gross six dozen (216 pairs). The numbers of scissors he sold was reflected in the

metal he bought, which suggests that he was not carrying any reserve stock, only buying what he would use in a week. If this was common practice, it might explain the lack of reference to stocks of metal in inventories.

Date	iron		cost	steel		cost	scissors	paid
	lbs	ozs.		lbs	ozs		(dozen pairs)	
November 1st	40	0	5s.8d.	3	12	9 ½ d.		
6th							16	£1.4.0
8th							18	£1.7.0
9th	47	0	6s.9d.					
14th				6	8	1 s.4d.		
16th	38	10	5s.6d.				18	£1.7.0
19th	36	8	5s.3d.					
23rd							16	£1.4.0
30th	42	4	6s.0d.	4	10	11 ½d.	8	12s.0
December 1st							10	15s.0
3rd	9	12	1s.5d.					
7th	44	4	6s.3d.				18	£1.7.0
14th	45		6s.5d.	6	4	1s.3 ½	18	£1.7.0
21st	48	8	6s.11d.				8	12s.0
24th							10	15s.0
January 3rd				5	3	1s.1d.		
4th	40	4	5s.8d.				10	15s.0
11th	42	12	6s.1½d.				8	12s.0
14th							6	9s.0
18th	42	8	6s.1d.	4	8	11 d	18	£1.7.0
21st				4	6	11 d		
25th	42	8	6s.1d.				10	15s.0
28th							10	15s.0
February 1st	45	0	6s.5d.	5	2	1s.1d.	12	18s.0
4th	42	8	6s.1d.					
8th				6	6	1s.4d.	16	£1.4.0
15th	50	0	7s.2d.				18	£1.7.0
22nd	47	0	6s.9d.	4	6	11 d	18	£1.7.0
Totals	**704**	**6**	**£10.0.4½**	**51**	**1**	**10s.6½**	**266**	**£19.19.0**

Table 3.7 Storehouse account for Edward Brittlebank, scissorsmith, showing the purchase of iron and steel and the sale of scissors, November 1681 to February 1682

He sold his scissors for 18d. a dozen. For instance, on 18 January, 1682 he sold 1½ gross of scissors for £1.7.0d and then bought 3 stone 8oz. of iron for 6s.1d and 4lbs. 8oz. of steel for 11d. During January, 1682, Edward sold 62 dozen pair of scissors. With four and half weeks in January, this gives an average of 13½ dozen pairs per week (165 pairs), assuming he was selling all his wares to the Storehouse. Also

assuming his working week was 5 days (Sunday and 'St.Monday' were generally not worked) and with a ten-hours day, then Edward would work for about fifty hours a week. This suggests a rate of between three and four pairs of scissors an hour. Some of Edward's working time was obviously taken in going backwards and forwards to the Storehouse and presumably waiting to be served, but from the surviving evidence, this is as near an estimation of the rates of work and pay for a scissorsmith as one can give.

Although the production of each pair involved forging, hardening and tempering, grinding, putting together, filing and finishing, he would not have made one pair from start to finish. Generally, he would have forged a sufficient quantity of blades to benefit from the heating of his smithy hearth, then probably grinding quantities of blades before completing the assembling. His apprentices and son may have taken over specific jobs in this production process.

Table 3.7 shows that Edward generally went to buy metal and sell scissors at each visit and the weight of metal being purchased suggests he must have taken a handcart. It can be seen that there was a frantic effort to make and sell a large amount of finished goods before Christmas - 54 dozen (648) pairs in just over two weeks. In the 1565 ordinances and restated in 1590, there was a closed period from the Nativity to the 23 January. The aim was to provide sufficient labour for agricultural tasks, as was the close time of two weeks in August. These ordinances were enforced by the Lord of the Manor, George, the Earl of Shrewsbury and a fine of twenty shillings was paid to him for breaking the rule. There is no mention of this enforced lay-off in the 1624 Act, but one of the earliest attempts to limit the length of the working day was made in 1680 by the scissorsmiths. The scissorsmiths agreed that the working day would not start before 6am and they would work no later than 8pm. One hundred and fourteen signatories agreed that there would also be a week off after Nativity, Easter Day and Pentecost. Edward Brittlebank's was the fourth signature. This 'holiday' after Christmas may account for his efforts before Christmas, when he took in ten dozen pairs. This period of extra work - later known as 'Bull Week' - was to earn sufficient to carry the men over the enforced lay-off. Edward did not buy any

metal on his visit on Christmas Eve, presumably because he would not be working. As soon as the rest period was over, Edward went straight back to buy his metal, but had no scissors to sell.

Table 3.9 makes further assumptions about Edward Brittlebank's work. It is assumed in the details below that Edward used all the metal he purchased to make his scissors, that there was no waste - an unlikely occurrence, but is ignored here.

One pound of iron cost	1.75d	approximately	0.1d per ounce
One pound of steel cost	2.5d	approximately	0.15d per ounce
one dozen scissors sells for	18d	a price of	1.5d per pair

One pair of scissors used	3.53 ozs	of iron costing approximately	0.35d
One pair of scissors used	0.25 ozs	of steel costing approximately	0.38d
each pair of scissors weighed	3.78 ozs	costing approximately	0.75d

Table 3.9 Costings of scissor manufacture for Edward Brittlebank

Over the five-month period, Edward used 11,270 ozs. of iron and 817 ozs. of steel to make 3,192 pairs of scissors. From these assumptions, the amount of steel in a pair of scissors is very small, a fourteenth of the amount of iron, clearly demonstrating that the steel must have been confined to a thin section along the blades. The weight of 3.78 ounces would give a pair of scissors with a total length of approximately eight inches. Edward doubled the cost of material for his selling price, which would take into account his labour and overheads.

Summary

The evidence from probate records and the Storehouse shows that scissorsmiths had forging and grinding capacity in their own workshops, with evidence to show that grinding was also undertaken at water-powered sites. The detailed reconstruction of the probable work practices of Edward Brittlebank shows that he bought enough metal for a few days' work and then selling his goods once or twice a week. His life

involved carrying heavy loads of metal between the Storehouse and his workshop in Sheffield, probably assisted by his apprentices. As a signatory of the Scissorsmiths' Covenant, he presumably felt that this life was stressful as he struggled to make sufficient pairs of scissors to cover his costs. These costs included not only the purchase of metal for more work, but also for fuel, grinding wheels and possibly the rent for his workshop and/or a water-powered grinding trow. He also had to pay for the upkeep of his apprentices as well as himself and his family.

The shearsmiths and sicklesmiths

These men were part of the Cutlers' Company from 1624, but the Company appears to have been inconsistent in the use of the words 'shearsmith' and 'sicklesmith'. This craft group principally manufactured agricultural edge tools - sheep shears, sickles and reaping hooks. The sizes of shears could vary from a three or four inches used in sewing and weaving, to the enormous cloth shears used to crop the nap off woven cloth, which could have blades between two and three feet long. Shears are different from scissors in that the opposing blades are attached at the base with a springy metal bow of various shapes. The blades, shanks and bows were forged out of one piece of iron and, as in scissors, the blades were 'tagged' with a steel cutting edge. This cutting edge of steel would be a small part of the overall blade.

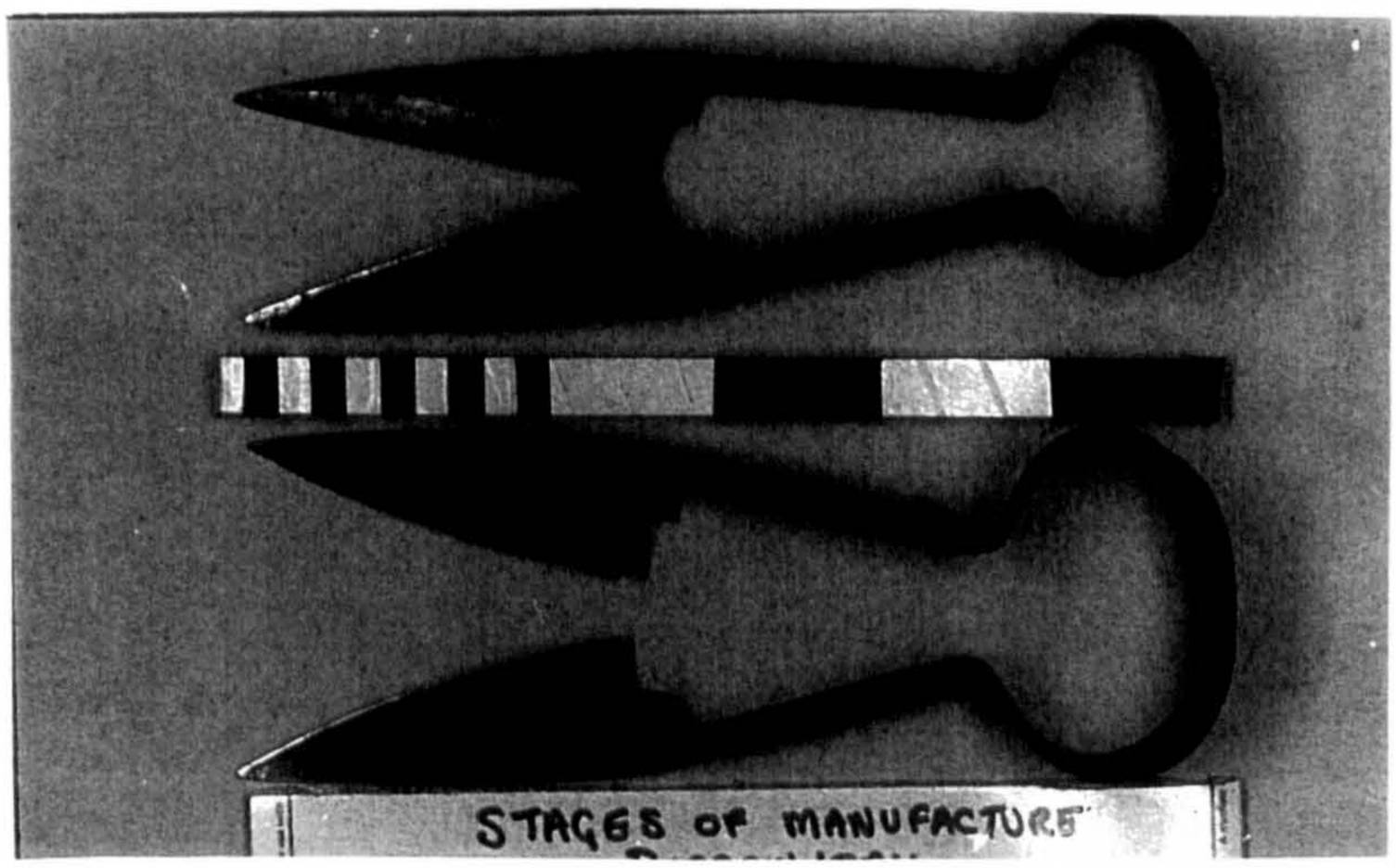


Figure 3.10 Modern shears (Hawley Collection)

The equipment required by shearsmiths would be the same as for other cutlery craftsmen; a smithy hearth with its attendant tools, plus grinding equipment. Assembly and finishing is a complex part of the production process involving the bending of the blades and bow to form an effective cutting edge. Some 18th century shears survive in private collections, showing that engraved and filed decoration was applied to shears used in the carpet trades.

There is only one surviving pre-1700 inventory for a shearsmith in Sheffield. Ralph Hide died in June 1700. Originating in Grenoside, in the parish of Ecclesfield, he took out his freedom in 1666 after being trained by two masters in Sheffield. He had two smithies, for which he was taxed in 1672, each with a pair of bellow, stithy and stock and cooltrough and one having *'certain hammers and Tongs a vice a Glaizer'*. He also had '*Certin wheel Tooles'*. The total value of his tools and equipment was £5.15.0. but there was no reference to any finished goods or raw materials. This information and the data in the Storehouse records do not add very much to an understanding of work practices. Only five men described as 'shearsmiths' sold shears to the Storehouse, for prices between 2s.0d. and 12s.0d. per dozen, which probably indicated the different sizes of the shears. These shearsmiths were Joseph Broadbent (F1678), John Humfrey (F1678), Matthew Stevin (F1674), his brother Jonathan (F1680), who sold woolshears, and Richard Taylor (F1640). However, referring to the Cutlers' Company records only John Henfrey and Jonathan Stevin were trained as shearsmiths. The others were apprenticed to scissorsmiths, though Richard Taylor was the son of a shearsmith. It is difficult to know whether these men were making 'tailors' shears - large scissors which were in the province of scissorsmiths- or whether this was part of the ongoing confusion about the differences between the two trades. None of these men appears in the Hearth Tax returns of 1672, though there was a Widow Stevin with a smithy hearth.

The use of the terms 'sicklesmiths' and 'shearsmiths' in the 17th and 18th century Cutlers' Company records was often quite arbitrary. However, in this instance, the sicklesmiths are assumed to be making sickles and hooks. These are agricultural edge tools with a curved blade of varying length and curvature, set into a short wooden

handle. Sickles are toothed or serrated along the inner edge, while hooks were not. Because of the size of the blades, which could be as long as 24 inches, the steel was confined to a narrow edge. The blade was forged from bar iron, the initial process being to draw out the blade and thin out the cutting edge. It was reheated and then placed in a narrow gap between two curved bars and pressure exerted on it to bend the blade, with the thinner cutting edge on the inner part of the curve. This resulted in the buckling and distorting of the thin edge, which then required further work to flatten these kinks. The tang was then drawn out. Again, it is not known at what point the edge of steel was applied. The cutting edges of the sickles were held in a tedding brig, which was an upturned, 'U-shaped' piece of metal. Teeth were cut into the edge with a small hand-held chisel and hammer, similar to the cutting of file teeth. Reaping hooks were made from heavier section iron and had an unserrated cutting edge. After hardening and tempering, the blades of reaping hooks were ground and attached to turned wooden handles.

An interesting aspect of the sickle trade was that it was located principally in the parishes of Eckington and Norton to the south of Sheffield. Family names indicate that the men probably migrated from the Attercliffe Township[53] to Eckington where the locative surname of Staniforth is almost as common as in Attercliffe. [54] The late William Staniforth of Litfield was the first shearsmith recorded in Eckington in the Cutlers' Company records when his son was apprenticed in 1631. The earliest sicklesmith master in Eckington was Thomas Cowley, whose apprentice from Norton gained his freedom in 1627. Evidence from the parish registers and from Cutlers' Company records shows that the earliest sicklesmith masters appeared in Norton in the 1630s and the sickle trade expanded after the 1650s.

Studies of the Eckington probate records by Kay Battye have identified three 17th century sicklesmith inventories.[55] William Staniforth of Litfield, near Ridgeway, died in 1630; Thomas Turner (F1650) of Ridgeway moorside died in 1680 and John Turner, senior of Ford (F1644), died in 1694. John Staniforth, who died in 1681, was described simply as a 'smith' but had two 'tedding brigs' used in sicklemaking.

The will of John Turner (F1644) gives a better indication of the tools and work

practices. He died in 1694, leaving his younger son, George (F1691), his bellows, stithies, his tools and four axletrees, two being '*at the wheel*' and the other two '*for grinding with the hand*' - a clear indication that grinding did not necessarily require water power. Unlike the scissorsmith Edward Brittlebank, there are indications that the sicklesmiths did carry large quantities of raw material. John Staniforth, d.1681, had '*two hundred of roughe steele at £2.0.0*' and '*22 hundred at £15.13.0*' amounting to a tenth of the total value of his goods and chattels. He had forging facilities indicated by two pair of bellows and two stithies with hammers and tongs, plus his tedding brigs. Unfortunately, the sicklesmiths did not appear in the Storehouse records.

There is one inventory for a Norton sicklesmith from the later 17th century. James Atkin (F.1672) of Lightwood, who died in 1683, had forging facilities with two pairs of bellows, two stithies and accompanying smithy tools. He could also grind his sickles, having *'three grindell stones axelltrees and one whitin stone, 6s.8d'*. A 'whitin stone' was a grinding wheel of fine stone, used for the final finish. James Atkin's inventory corresponds with that of John Staniforth in that he too was carrying a large quantity of metal. He had '*one tun of iron £13.0.0; one hundered of Steele, £1.0.0'*. One can only assume that since these men were making larger items and lived some distance from the centre of Sheffield where merchants sold the iron and steel, they kept a large stock.

Summary

The information relating to late 17th century shearsmiths and sicklesmiths is very limited. Their working practices cannot be described with certainty. They had the necessary forging equipment of bellows, stithy and stocks, hammers, tongs and cool troughs. There was no reference to hafting material or mention of tools for hafting. The tedding brig is mentioned only once, suggesting that other sicklesmiths may well have been making reaping hooks, for which this was not a necessary piece of equipment. The large quantity of metal left by the sicklesmiths is noteworthy,

consistent with their relative remoteness and their need for more metal than the scissorsmiths or cutlers. The only shearsmith inventory did not mention metal, but since he was in Sheffield town, he was possibly buying only for his immediate use.

The scythesmiths, filesmiths and awlbladesmiths

These three groups of metalworkers all joined the Cutlers' Company during the Hearth Tax dispute. Because these men had smithy hearths, it was in their interest to be part of the Company, which was actively seeking its members' exemption from taxation. Similarly, the Cutlers' Company was encouraged to extend inclusion to these men in order to support the costs incurred in the battle over the Hearth Tax. Many scythesmiths lived in Norton parish and because Norton was outside Hallamshire, these scythesmiths had never been under the control of the manorial courts and even the scythesmiths within Hallamshire had not joined the Company in 1624. Because Norton came within the 'six miles round', these scythesmiths became part of the Cutlers' Company in 1682, joining the Norton cutlers who had been in the Company from the outset.

The awlbladesmiths were a very small craft group. They joined in 1676, but records for them and the scythesmiths, peter out in the 1720s. The scythesmiths seem to have left the Company after some argument, probably related to their use of non-Company labour, while the numbers of awlbladesmiths just seem to have dwindled away.

The filesmiths were unlikely candidates for inclusion in a craft guild which made cutting implements. One might argue that the rough surface of a file was made up of thousands of cutting edges, but it would seem they were integrated as men having similar work practices - that is, forging metal, grinding and finishing. They were welcomed in 1682, but in the internal turmoil of the 1780s and 1790s, questions were being asked to as whether they should ever have been included in the Cutlers' Company.

The scythesmiths

These men, mainly living in the parish of Norton, produced large agricultural edge tools, with blades up to three feet long and made of a sandwich of iron/steel/iron. The bars of metal were held together while heated and forge-welded into a solid bar, which was then reheated and hammered out to produce the blade, in a process called 'plating'. The large size and thickness of the metal being forged required considerable effort and the scythesmiths were assisted by strikers or labourers, who had not necessarily been apprenticed to a scythesmith. The scythesmiths also used water-powered tilt hammers to assist their manufacture. The use of untrained labour was contrary to the bye-laws of the Company but special dispensation was given to the scythesmiths and this aspect of their work practices probably led to their 'leaving' the Company in the 1720s. Scythe manufacture seems to have fragmented into specialists, as revealed by men apprenticing their sons to the Cutlers' Company, who described themselves as scythesmiths, scythe temperers and scythegrinders. Scythegrinders are mentioned in the 16th century Norton parish registers and it is possible that the large size of the blades led some men to concentrate on one aspect of manufacture.

There are three Norton scythesmiths' inventories for the late 17th century. John Gillott of Woodseats, who died in 1691, had two smithies with £4 worth of tools in each. He had '*certain wrought sithes £4*' and '*tempering tools and sartain wood £1*'. Robert Wainwright, who died a year later, also had a *'temparing stythy and a broken stithy, £2.10.0'*. In his smithy, he also had two sets of *'smithy gears'*. The scythesmiths, like the sicklesmiths, carried large amounts of metal, but remarkably, many also carried very large numbers of finished and part-finished scythes. Robert Wainwright had '*14 hundred of Iron, £10.0.0; 2 hundred 4 stone of gade steel, £3*' together with *'18 hundred of Sythes, £144'*. Hugh Goddard, who died in 1695, had finished scythes and scythe debts to the value of £150, almost a third of his total inventory valuation. Goddard had two smithies with bellows, anvil, hammers and tongs, cool trough and a grinding stone in each. One smithy had three dozen old scythes and some old iron, while the other had 'tempering bellows', with two dozen

rough scythes and two dozen waster scythes. It would seem that Goddard had the capacity to make scythes from start to finish in his smithy - forging, hardening, tempering and grinding the blades. However his inventory mentions tools at Heeley - two pair of bellows and anvils, with hammers and tongs - and '*at the wheel*', another three dozen rough scythes. This may indicate water-powered grinding at the Heeley Wheel on the River Sheaf, which was operating by the 1680s. It is not clear where water-powered forging might have been carried out, since Norton Hammer was involved in iron smelting.

The amount of scythes left by scythesmiths is intriguing and suggests that scythes were being made from October to May, stockpiled and then sold or distributed for sale ready for the harvest. The amount of money tied up in stock and in debts suggests that the scythesmiths were fairly well-to-do. All the surviving inventories had agricultural stock and equipment, indicating that the dual economy was essential to them since they were only selling their goods at one time of the year. The table below summarises the stock and debts from the scythesmiths' inventories of Norton, from 1665 to 1724.

Name	date	stock of scythes	value	debts
Wm. Blythe	Feb. 1665	6,246 + 6 packs	£187.13.0	£47.0.0
Ed. Brownell	Mar. 1665	800	£56.0.0	£30.0.0
Thos. Wainwright	Oct. 1680	400 + 1 dozen	£25.10.0	£81.0.0
Thos. Warter	May 1683	-	-	£33.6.8
John Gillott	Jun. 1691	rough sithes	£4.0.0	£232.19.0
Robt Wainwright	Apr. 1701	1,800	£144.0.0	£110.0.0
Wm. Goddard	Apr. 1702	-	-	-
Jos. Parker	Oct. 1710	-	-	-
Josh. Gillott	Sept. 1712	-	-	-
Geo. Turner	Apr. 1716	sithes at Loxley ground	£102.0.0	£103.0.0
Thos. Goddard	Apr. 1724	800 rough sithes	£60.0.0	

Table 3.10 Numbers and value of scythes listed in Norton inventories

The information from the inventories indicates a complex manufacturing system. The men seem to have concentrated their efforts in scythemaking during the winter months, living off their profits and agricultural income. Their inventories suggest that

their work was often spread around the area - references to the 'wheel at Heeley' and the 'wheel at Loxley', to workshops away from their farms and finally to stocks of finished goods with merchants and dealers in various parts of the country. [56]

The awlbladesmiths

Seventeen awlbladesmiths joined the Cutlers' Company in 1676. These men made small, sharp, leaf-shaped blades, not much bigger than a large needle, for use in the leather trades. An awlblade is tiny compared with many of the other types of blades made, but would still require the same processes of forging, tempering, hardening, grinding and attaching to a small wooden handle. Only two inventories survive showing that they were not in the same league as the scythesmiths. Tobias Sands, died in 1696, having a smithy with '*bellows, anvil, etc £1*'. He is not listed in the Hearth Tax return for 1672, but William Sands and Widow Sands were listed consecutively in the Sheffield list, both having two smithies. Thomas Couldwell died in 1691, just three years after gaining his freedom in 1688. His inventory is more informative and demonstrates the lower value of the stock and finished goods. His inventory lists *'raw mettle 9 pounds weight, 1s.6; seven pounds and three quarterns of Steele, 1s.3d; 7 gross of blades, 13s.0.*' His inventory lists hammers, etc, but gives no evidence of a smithy.

The Storehouse records several awlbladesmiths called Moake. John, Francis and Thomas, senior and junior, all joined the Cutlers' Company with the other awlbladesmiths in 1676. A Thomas Moake was assessed for a smithy hearth (no domestic hearth) in Ecclesall in 1672 and in the early 1680s, a Thomas and Francis Moake each took an appentice. The name 'Moake' is easy to see in the list of customers to the Storehouse and they stand out because of the relatively large amounts of steel they bought.

The Moakes	date 1681-1682	steel (cwt.sts.lbs.ozs.)	cost
Francis	18 November	0. 3. 10. 2	13s.4d.
Thomas	24 November	1. 0. 4. 0	£1.5s.10d.
Francis	24 November	0. 3. 7. 4	10s.3d.
Thomas	7 December	1. 0. 3. 0	£1.5s.7d.
Francis	7 December	0. 2. 8. 0	7s.8d.
John	7 December	1. 0. 11. 8	£1.7s.5d.
Francis	19 December	0. 1. 3. 10	3s.8d.
Thomas	11 January, 1682	0. 0. 7. 0	1s.5d.
Francis	11 January	0. 2. 1. 8	6s.2d.
Thomas	20 January	0. 1. 7. 6	4s.5d.

Table 3.11 Purchases of steel from the Storehouse by Francis, John and Thomas Moake, November1681 to January 1682

The Storehouse also recorded what these men were making. From the amounts of steel, it might seem that they were making thousands of awlblades. However, they were making 'boxes'. They were selling boxes at 4d., 5d. and 6d. per dozen and selling between one and ten dozen boxes per visit. The end of the 17th century saw some craftsmen turning to the manufacture of boxes for money and tobacco, presumably more lucrative than awlblade manufacture. The Cutlers' Company seems to have controlled this trade to some extent and may suggest the reason for the 'disappearance' of awlbladesmiths from the Cutlers' Company records. There is no record of the Storehouse buying any awlblades.

The filesmiths

Until the later 20th century, many manufacturing processes required the use of a file at some point. Because many items were hand-made or made singly, filing and adjusting was necessary to make parts fit correctly for any assembly work. Files were used in the assembly of spring knives and to produce decoration for instance, on the backs of springs and on the shanks of scissors Files came in almost endless variations. Not only was there variation in lengths from a few inches to over a foot, the cross-sections were variable, such as half-round, triangular (called 'three square'), rectangular or tapered. Together with these physical variations would be many

differences in 'cut', that is, the arrangement and depth of the serrations or ridges giving very fine or rough finishes. On the main faces of files were generally two series of cuts at an angle to each another and teeth could be cut on the edges also. Rasps had 'pointed' teeth cut in them, as opposed to the straight-line teeth of the files.

The process of file manufacture was similar to other branches of the cutlery trades, forging a bar of steel to the required shape, grinding to produce a very smooth surface before the teeth were cut with a hand-held chisel and hammer. The file was then hardened and tempered, a process requiring some skill, since the thickness and length of the metal could cause distortion. Usually, files were sold unhafted; the handles generally being attached by the purchaser.

There are four pre-1700 filesmith inventories, though one is described as a filecutter, indicating specialisation in one aspect of manufacture. All the men had smithies with the attendant bellows, anvils, stocks, hammers and tongs and they all had grinding facilities at their premises. The grinding and trade specific equipment is listed in Table 3.12.

name	date	items	cost
Edward Hellifield	1690	3 grinding stones 1 trow	8s.0d
		5 cuting stithies and 2 swaging stithies	£1
Joseph Handley	1693	3 grinding stones and troughs to ym	9s.0d.
		11 stithies and 9 stithy stocks and 17 hammers	-
Joseph Brammall	1698	2 grinding stones with their axletrees;	7s.0d.
		wheel tools	7s.0d.
		7 cutting stithies and their stocks; 24 hammers big and less;	£3.10s.0d.
		a lead trough	5s.0d.
Samuel Roberts	1698	2 stones and 3 axletrees	6s.0d.
		1 wheele band 1 Axle tree a horsin 3 stones and 2 pulleys	18s.0d.
		6 hammers and 2 little stiddies	

Table 3.12 Grinding and cutting equipment in filesmiths' inventories

The inventories all record the grinding facilities, consistent with a typical trow, of the grindstones, axles, drive belts and the seat (horsin). None of them has reference to

bellows or cooltroughs, suggesting perhaps that forging was done somewhere by specialist forgers. The cutting of teeth was a major process in file manufacture and it is assumed that the filesmiths did this work, but later in the 18th and 19th century, specialisation led to filecutters, including women, becoming a sizeable part of the Sheffield file trade. The ground file blank is held by a leather strap on the anvil on top of an anvil stock. The face of the stithy was covered with a lead sheet or with a lead mould shaped to hold specific files, especially for the three-square files. Lead was used so that when one side of the file had been cut and turned to cut the other side, the newly cut teeth, in their unhardened state, would be protected from any damage. The teeth of the file or rasp were cut using hand-held flat or pointed chisels, varying in size. They were struck with a hammer, which also varied according to the size of the chisel. Unfortunately, these inventories have no mention of any cutting chisels.

Written in 1920, *La Lime* by C. Fremont and translated by George Taylor under the title *Files and Filing,* deals largely with the continental manufacture and use of files in manufacturing processes. It has interesting illustrations of file cutting, such as one showing a 17th century filecutter swinging the hammer well above his head, which would have required amazing co-ordination. Another illustration of a German filecutter in 1534 shows him using a chisel and hammer in a more conventional manner, but one of a German craftsman a century earlier, is shown using a chisel-edged hammer to cut the teeth.[57] The speed with which 17th century filesmiths could cut a file is not known, but at the beginning of the 19th century, the time was recorded for a boy cutting a three-square file, 5 inches long, with a 'double' cut (ie having two sets of teeth cut into each side).[58] The file had 1,350 teeth and the boy made 225 strokes per minute, spending about 6 minutes cutting the file.

As with other metalworkers' inventories, there is evidence of the amounts and value of files, as well as metal stocks, which were left when the filesmiths died.

name	date	item	cost
Edward Hellifield	1690	none	
Joseph Handley	1693	12 pound of steele	£12.12s.0d.
		certain files	£2.0s.0d.
Joseph Brammall	1698	73 dozen small files	£3.12s.0d.
		150 dozen ditto	£7.16s.0d.
		30 dozen more	£2.5s.0d.
		22 dozen more	£1.6s.8d.
		4 dozen	10s.0d.
		rubbers and waster files	£6.15s.0d.
		126 dozen files	£8.8s.0d.
		188 dozen	£9.0s.0d.
		7 dozen more	11s.6d.
		steel and certain files unwrought	£3.6s.0d.
Samuel Roberts	1698	2 hundred of steel	£2.6s.0d.

Table 3.13 Stock and goods left by Sheffield filesmiths

Joseph Brammall left 7,200 files when he died, which with his stock of metal, totalled £43.10s.2d. His stock and raw materials is almost comparable to that left by some of the scythesmiths, though the value was much smaller. Why was he carrying so much stock, was he working on a large order, or had an order been cancelled.

Summary

In the later 17th century, the filesmiths appear as a small group of craftsmen, whose origins are unclear, but who probably developed locally as specialised urban craftsmen alongside the expansion of the cutlery trades.[59] The filesmiths manufactured a range of tools necessary to the other metalworkers for the production of knives, etc. Their work practices can be seen from their inventories and in common with other metalworkers, they forged and ground their wares, though there is no documentary evidence of forging or hafting. The simple stithies and hammers for the cutting of the teeth were listed, but from the evidence, it is not known whether they used chisels.

The filesmiths joined the Cutlers' Company at a time when there was resentment over the Hearth Tax. They were seen as a distinct, existing craft group, though none of them had sent their sons as apprentices to cutlers prior to their joining the Company and few of them have been identified in the Hearth Tax returns. They became one of the larger craft groupings in the Cutlers' Company, at the heart of the unrest in the 1780s and 1790s, when the many of the bye-laws and rules of the Company were being questioned.

Conclusions

This chapter has been written to explain the manufacturing processes involved in making articles with a cutting edge, which included knives, scissors, shears, sickles, scythes and awlblades, together with the filesmiths who were also subject to the rules of the Cutlers' Company after 1682. The chapter has described how the craftsmen of Sheffield could have acquired their raw material, the iron, steel and hafting material, when they were relatively isolated, both geographically and in terms of the technological developments in industrial processes. The documentary evidence shows that Sheffield could obtain iron and steel not only from the continent via the east coast ports, but also from the local ironworks developed by entrepreneurial squires who built furnaces and forges. The Cutlers' Company was instrumental, at one point at least, in ensuring that its members had access to metals and hafting material at reasonable rates. The chapter has also explained how the local rivers were exploited to provide power for grinding, forging and other metal working processes.

Sheffield cutlers lagged behind London in the quality and output of knives, etc. until the mid-18th century and this chapter has attempted to show, by describing the manufacturing processes, how Sheffield craftsmen could overcome their isolation and develop their assets. These assets included the early management of its mineral resources of coal, wood, ironstone and the later development of waterpower. These assets were exploited by its inhabitants to establish a manufacturing base, which

eventually rivalled and then overtook London. However, one advantage that is sometimes overlooked was the presence of powerful Lords of the Manor, the Earls of Shrewsbury, who took an active and mercenary interest in the organisation of the trade, bringing it within the manorial court system and benefiting from the fines as well as the trade. From surviving archives, the Earls of Shrewsbury were shown to be actively involved in developing water-powered sites, importing iron and steel and encouraging the local metal production. A similar situation existed at Thiers in France and Sölingen in Germany where powerful resident lords also controlled the trade. It would seem that Sheffield's deficiencies, its remoteness, poor communications and prior to 1624, its lack of a guild system, were no bar to the development of its cutlery trade. In fact, one might argue that these were also assets, in that Sheffield cutlers were not drawn into civic rivalry and that its isolation led to improvisation. When the Lords were no longer resident in Sheffield, the craftsmen worked under the Cutlers' Company, operating as a mediaeval guild. This seems to have perpetuated the outdated traditional aspects of authoritarian control of apprentices and quality, intensifying the isolation of Sheffield's manufacturing industry.

It is necessary to have a clear understanding of the different manufacturing processes in order to appreciate the data in the Hearth Tax returns, presented in subsequent chapters. The three main manufacturing processes have been explained generally and then in terms of the different crafts. The probate inventories data about the stock, the value of material and the necessary equipment can be used to reconstruct work practices and the advantages and location of water-powered grinding facilities have been demonstrated. However, the essential first stage in the manufacturing process was the forging of the blade or file blank. One can therefore appreciate the importance of the smithy hearth as a manufacturing asset, which had to be protected from undue taxation. The smithy hearth is a crucial factor with which to investigate the distribution of the cutlery craftsmen in Hallamshire.

In order to appreciate the work practices of different trade groups and in different locations, the following chapters will concentrate on specific features. In Chapter

Four, the community of scissorsmiths in the two parts of Sheffield Township are described. Chapter Five concentrates on Attercliffe Township, which had a high proportion of cutlers and scissorsmiths in its population, while Chapter Six concentrates on the rural nature of the cutlery trades as seen in the scattered hamlets of Brightside Bierlow and in Ecclesfield parish, which also had communities of its nailmakers. The importance and use of water-powered sites will be appraised in Chapter Seven, which covers the activities of cutlers, etc in the Townships of Ecclesall and Upper and Lower Hallam. Chapter Eight will also concentrate on the importance of waterpower for the expanding communities of the Bradfield chapelry.

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Chapter 4
Sheffield Township – 1st and 2nd Parts

Introduction

The aim in the following chapters is to present information about the cutlery manufacturing communities, which has been derived principally from the correlation of the Hearth Tax returns and the records of the Cutlers' Company. Although specific locations cannot always be given, there is sufficient evidence to demonstrate the whereabouts of most of the smithy hearth owners, and to show the dominance in some areas of particular crafts. The evidence will be presented in tables and graphic form, attempting to give a visual impression of the distribution of domestic and smithy hearths, even though the precise geographic relationships cannot be given. Because of the large numbers of people in the Sheffield Township, this chapter will concentrate only on the urban scissorsmiths, detailing their interconnecting links through family and training. Other trades and features will be considered in less detail.

Analysis and presentation of the data

The original Hearth Tax assessments and returns do not number the taxpayers, but for this research, all the entries have been numbered in sequence, the numbers then

being used to place the people in the villages and hamlets. Using contemporary data and published material, many taxpayers have been identified; more in areas with high numbers of cutlers, etc. The data will be presented as graphs to show the number and distribution of hearths and smithies as well as the occupations of the identified taxpayers. The properties of these identified people will be colour-coded in the following manner:

cutlers are red,		scissorsmiths are blue,	
filesmiths are yellow,		shear and sicklesmiths are pink	
awlbladesmiths are dark green		scythesmiths are pale blue.	
non-cutlery trades are grey		women taxpayers are black	
All smithy hearths are shown green			

General description of Sheffield Township

In 1637, the new owner of the Manor of Sheffield, the Earl of Arundel, employed John Harrison to make a survey of his lands and the income to be derived from its assets. The original survey and map no longer exist but two manuscript copies of the terrier survive and have been used to reconstruct a map showing land use in the parishes of Sheffield and Ecclesfield.[1] The terrier also includes details about properties in the town centre streets, including the market place, Bullstake, the butchers' Shambles and the shops around Sheffield Castle, before its demolition in 1648.

The earliest surviving map of the town centre was produced by Ralph Gosling in 1736 and shows the built-up areas and open spaces. The main streets were Church Lane, joining Fargate and High Street, which led into the Market Place. Both sides

of High Street, Fargate and the Market Place were divided into narrow burgage plots, fronting the main streets and reaching back to the park boundary or lanes. Evidence for these plots is still visible today in the building lines and narrow alleys. The parish church stood on a ridge above the Castle, at the confluence of the rivers Sheaf and Don. The mediaeval Lady's Bridge crossed the Don near Castle and carried the road east towards Attercliffe and Rotherham, while a bridge over the Sheaf took the road south through the old hunting park.

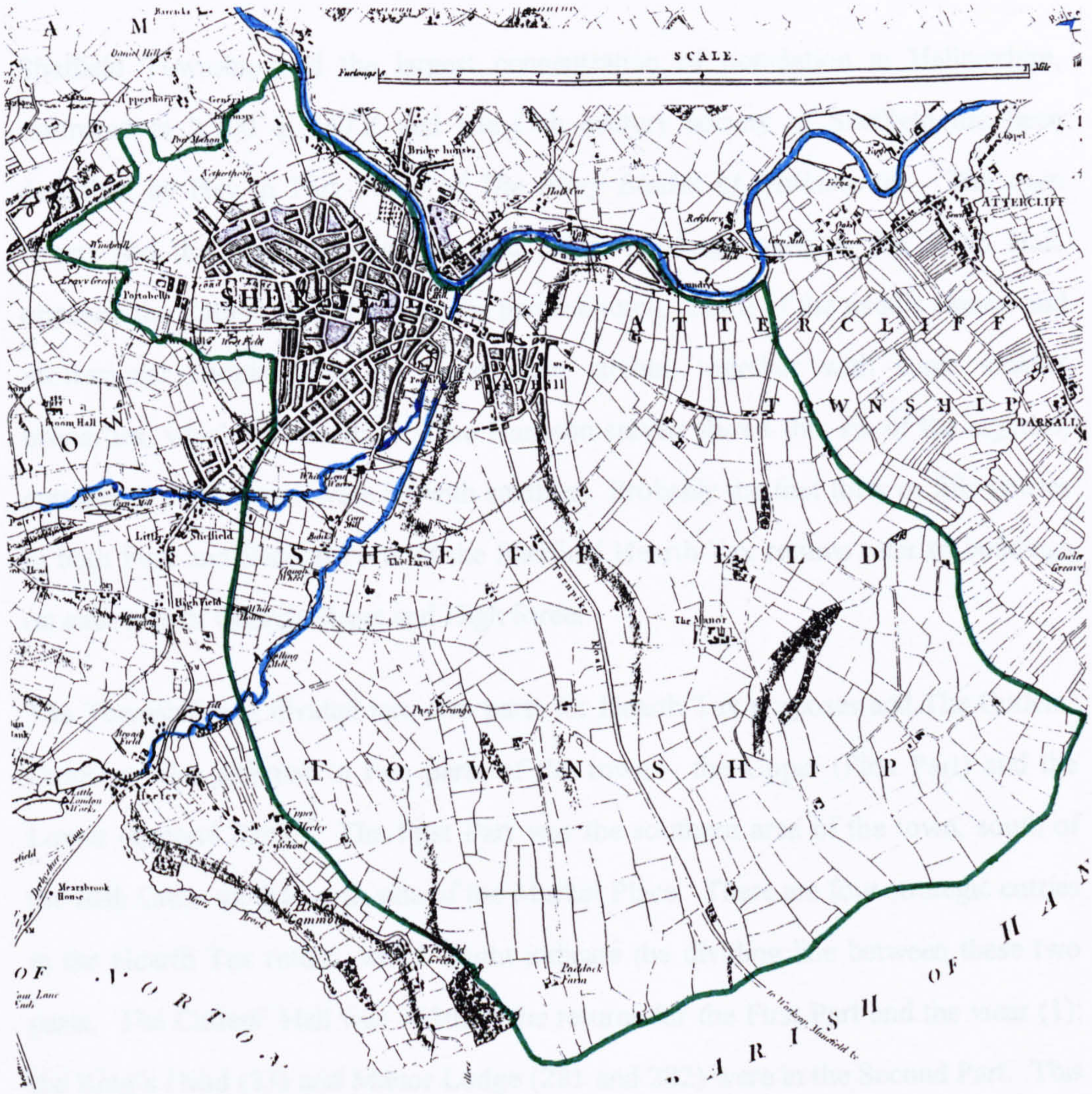


Figure 4.1 Sheffield Township, Fairbank's map of Sheffield parish, 1796.

To the north of the church, the land fell steeply to the river Don, with streets and open land, stretching out from orchards and meadows to fields and farmland. To the south, the streets went down to the Ponds, a low-lying area along the rivers Sheaf and Porter, beyond which was the large mediaeval hunting park. By 1672, this had been laid out as farms and fields, but the old hunting lodge remained at its centre. Roads westwards from the town centre, crossed the open moor of Little Sheffield in Ecclesall Bierlow.

Sheffield Township had the largest concentration of population in Hallamshire, estimated at 2,700 in 1672[2] and late-17th century society of Sheffield has been described by Hey in Part Three of *The Fiery Blades of Hallamshire*. The main streets had the larger houses, inns and public buildings, such as the Town Hall, opposite the Cutlers' Hall and near the parish church. Some of the middle classes and professional people lived on these main streets, together with some smaller properties, which had smithies. The Harrison survey shows that six of the eighteen cottages in High Street were let with smithies. Probably the first forty or fifty entries in both First and Second Parts of the Sheffield Hearth Tax returns refer to buildings on each side of Church Street and High Street.

The Township was divided into two parts for Hearth Tax purposes and The Cutlers' Company also referred to two parts of the town – the Upper (First Part) and the Lower (Second Part).[3] The First Part was the southern area of the town, south of the Irish Cross on the north side of the Market Place. There are four strategic entries in the Hearth Tax return, which might indicate the dividing line between these two parts. The Cutlers' Hall was 168th in the returns for the First Part and the vicar (1); the King's Head (33) and Manor Lodge (281 and 282) were in the Second Part. This evidence suggests that the dividing line began around Townhead, running down the centre of Church Lane and High Street, to the Irish Cross and eastward over the

Sheaf Bridge. Sheffield First Part was bounded by the River Sheaf on the southeast and Ecclesall Bierlow on the west, while Sheffield Second Part included the northern part of the urban area, the fields and farmsteads further north and the old hunting park, east of the River Sheaf. Sheffield First Part had fewer taxpayers, but more properties with smithy hearths than Sheffield Second Part. In fact, almost half the properties in the First Part had a smithy and this density of hearths must have made for a much-polluted atmosphere.

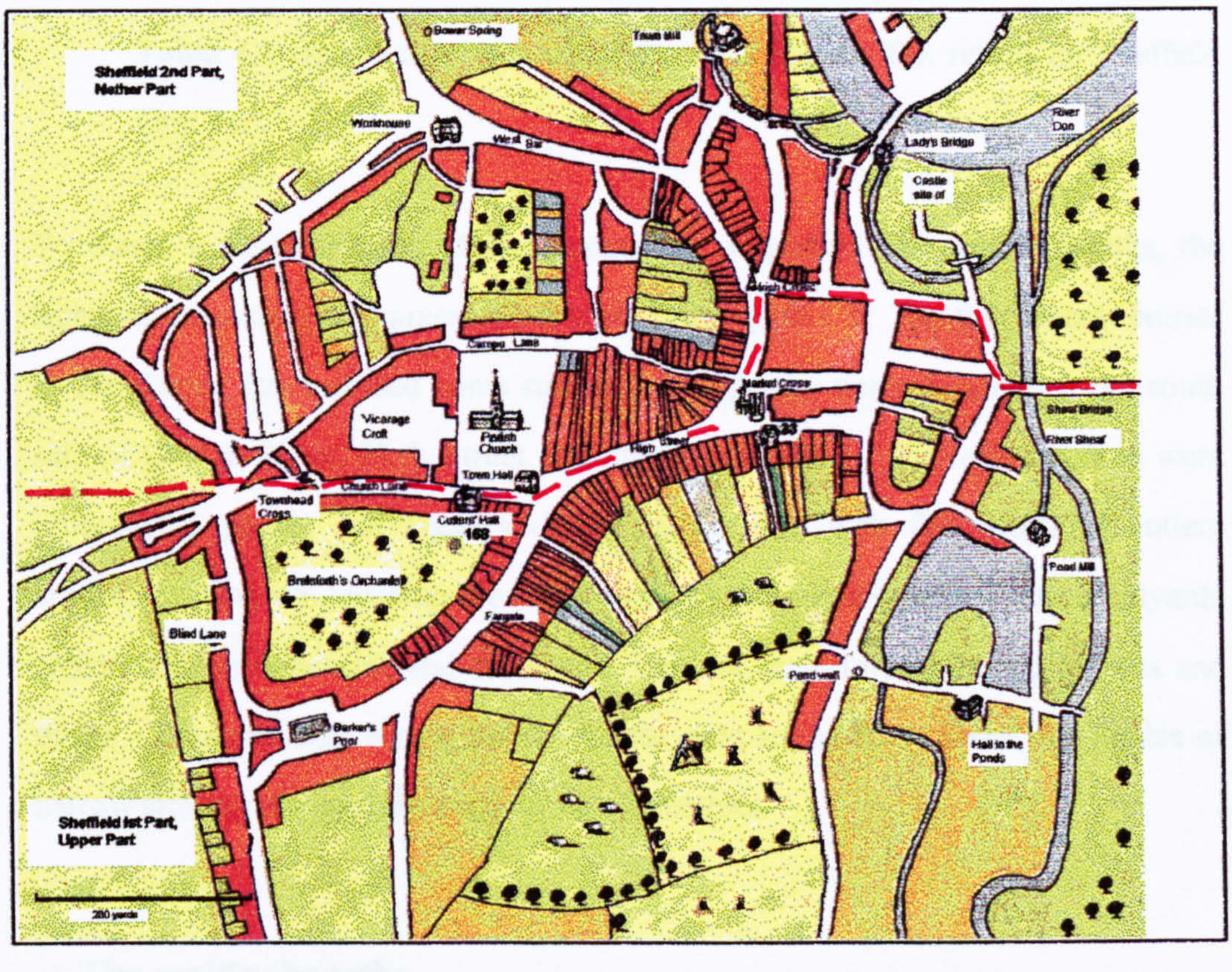


Figure 4.2 Plan of Sheffield town centre, based on the 1736 map by Ralph Gosling[4]. The red dotted line indicates the possible dividing line between the 1st and 2nd Parts.

Sheffield First Part

The quantitative analysis of the Hearth Tax return presents a picture of a populous area where almost half the properties had smithies. There were very few empty properties and only 10 per cent of the taxpayers were listed as poor, with or without certificates.

number of tax-payers	225	empty	3
number of hearths	286	new chimneys	9
average number of hearths	2.6	demolished chimneys	5
number of smithies	130		
number of properties with smithies	98	poor with or without certificates	23
%age of taxpayers with smithies	43.6	widows and other women	22

Table 4.1 Quantitative analysis of the 1672 Hearth Tax return for Sheffield First Part.

To obtain a clearer picture of the numbers of properties with smithy hearths, the listing of the taxpayers is presented as a graph in Figure 4.3. The first seventy entries in the Hearth Tax included some substantial properties corresponding to the south side of Church Street, High Street and the Market Place. The residents here were professional people and keepers of the larger inns, with few identified cutlery craftsmen. One can visualise the small, one-hearth houses squashed into courtyards behind the larger houses, and those with smithies seem to be grouped in twos and threes. Between High Street and the Ponds, next to the River Sheaf, the jumble of narrow streets contained the majority of the smithies.

The smithy hearths

The potential of the Hearth Tax returns, when linked to the Cutlers' Company records, is seen in the number of identified smithy hearth owners. Craftsmen in all the trades, except scythemaking, have been identified as taxpayers in Sheffield First Part.

Table 4.2 shows the occupations of these particular taxpayers and the numbers of smithy hearths they owned. There are several striking features about this data. The first feature is that 90 per cent of the owners have been identified. Secondly, a large proportion of identified craftsmen were without forging facilities, especially the cutlers. Thirdly, scissorsmiths generally had more than one smithy hearth and fewer were without smithies, suggesting they were a more affluent group. Finally, a third of the women taxpayers were smithy owners.

crafts / occupations	number of smithies				poor	
	1	2	3	without	with	without
cutlers	42	6	-	36	1	10
scissorsmiths	7	16	1	10	1	3
shearsmiths	-	1	2	2	-	-
filesmiths	4	1	-	1	-	-
awlbladesmiths	3	1	-	1	-	-
women	7	1	-	-	-	1
non-cutlers (smoothing iron maker)	1	-	-	-	-	1
not identified	5	-	-	-	-	8

Table 4.2 Quantitative analysis of the identified smithy owners in the 1672 Hearth Tax returns for Sheffield First Part.

These characteristics, especially the numbers of craftsmen without their own smithy hearths and the multiple hearths of the scissorsmiths, have a bearing on the trade organisation. The women smithy owners also a present an organisational issue by having facilities for rent, or they were perhaps controlling the journeymen of their late husbands.

Because there were so many smithy hearth owners, only the sequence of smithy hearths, the numbers of smithy hearths and the colour-coded occupations of the taxpayer will be given here. Table 4.3 presents the entries in blocks of fifty, and suggests the probable geographical distribution in the congested areas behind the

main streets. From entry number 80 onwards, almost every house had a smithy. The Table clearly shows that the scissorsmiths generally had multiple hearths and the crafts appear to group together. However, it must stressed that there is no way of knowing the physical proximity of these properties.

sequence & craft		smithy											
10	s	2	51	c	1	100	s	1	151	w	1	202	c	1
11	s	2	54	f	1	101	c	1	152	s	2	203	c	1
16	c	1	59	c	1	102	c	1	154	s	2	206	c	1
19	c	1	62	c	2	103	c	1	155	s	2	207	s	2
23	w	1	65	c	1	104	s	2	157	f	1	209	w	1
24	c	2	71	c	1	105	s	1	163	c	1	210	f	2
41	sh	3	79	c	1	106	s	2	164	c	1	211	*	1
42	c	1	80	w	1	108	c	1	165	c	1	215	c	1
			83	w	1	109	c	1	169	s	3	216	c	2
			84	f	2	110	c	1	170	c	1	217	c	1
			85	c	1	111	a	1	171	c	1	219	w	1
			86	s	2	113	c	1	172	c	1	220	c	1
			87	c	1	115	c	1	174	c	1	221	s	2
			88	s	1	117	c	1	176	c	1	224	c	2
			89	s	2	118	c	1	177	w	1	225	s	1
			91	s	2	119	c	1	178	c	1			
			92	s	1	122	s	1	180	s	2			
			93	s	2	124	s	2	181	a	1			
			94	c	2	127	s	2	182	w	2			
			96	a	1	130	c	2	183	a	2			
			97	f	1	131	c	1	188	c	1			
						134	c	1	191	c	1			
						135	sh	3	193	s	1			
						143	c	1	195	c	1			
						148	sh	2						
						149	c	1						

Table 4.3 The sequence of identified smithy hearth owners in Sheffield First Part and the number of their smithies. a = awlbladesmith; c = cutler; f = filesmith; s = scissorsmith; sh = shearsmith; w = woman; * smoothing iron maker

Usually the returns gave the name, the number of domestic hearths plus any smithy hearths, but some entries in the Hearth Tax return gave only the smithy hearth. However, several examples of taxpayer with two entries give the first one for the domestic hearths and the following for the smithy hearth(s). This occurs eight times and it may be that these particular smithies were not physically adjacent to the house,

even though they were next in sequence after the domestic hearth entries. With only eight such occasions, one might speculate that all the rest of the smithies *were* within close proximity to the owners' houses. There are three further entries for smithies only and their owners do not appear as taxpayers for domestic hearths in Sheffield First Part. One was William Ashforth, a name that only appears in Upper Hallam and another was James Steven, who might have been living with another family member. The third man was Thomas Twigg, a scissorsmith, who was taxed for a single smithy in this part of Sheffield, but actually lived in the Second Part, where he had four more smithies! These entries, together with the empty properties, reduce the number of taxpayers by fourteen to 221.

The graph in Figure 4.3 shows the number of people who have been identified with reasonably certainty and the occupations of about three-quarters of the taxpayers have been found, sufficient to give an overview of the area. The proportion of the taxpayers who can be identified has depended largely on their being entered in the Cutlers' Company records as master, apprentice or parent. The larger properties with more hearths are found in the first sixty entries of the Hearth Tax list and around the entries listed 150-180, probably corresponding to the main roads in the town. Some of the properties with many hearths were the inns; at least three of the owners were cutlers also - Matthew Arnold had eight hearths, Malin Sowerby had fifteen and Joseph Downes with six hearths. [5]

smithies		shear/sicklesmiths	
cutlers		filesmiths	
scissorsmiths		awlbladesmiths	
others		women	

Table 4.4 The colours used in the distribution graph of Figure 4.3

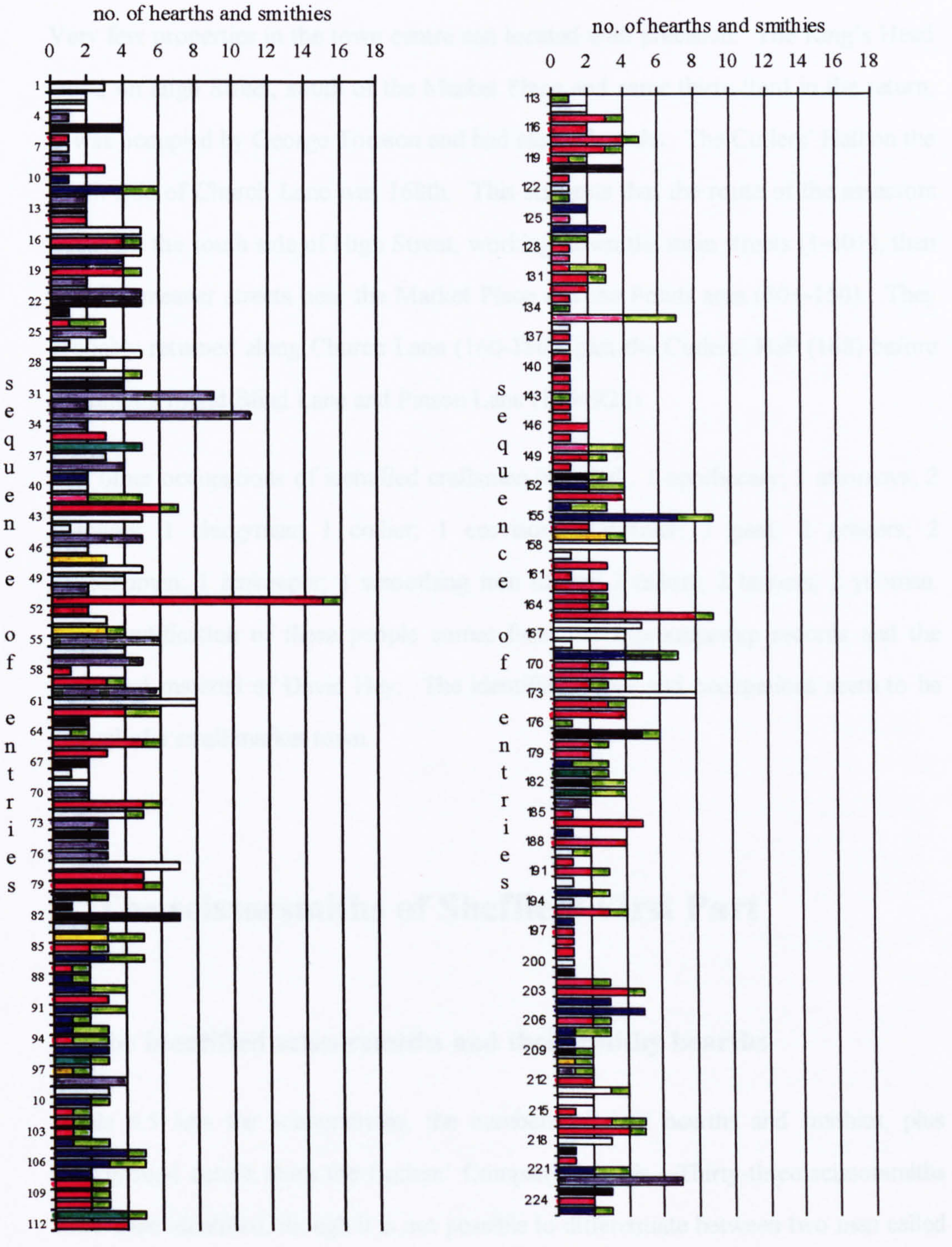


Figure 4.3 The distribution of hearths, smithies and occupations in the First Part (upper/south) of Sheffield Township.

Very few properties in the town centre can located with precision. The King's Head stood on High Street, south of the Market Place and came thirty-third in the return. It was occupied by George Tomson and had eleven hearths. The Cutlers' Hall on the south side of Church Lane was 168th. This suggests that the route of the assessors began on the south side of High Street, working down the main streets (1-40+), then into the meaner streets near the Market Place and the Ponds area (80+-150). They probably returned along Church Lane (160-180), past the Cutlers' Hall (168) before continuing round Blind Lane and Pinson Lane (180+225).

The other occupations of identified craftsmen included : 1 apothecary; 3 attorneys; 2 butchers; 1 clergyman; 1 collier; 1 corvisor; 1 distiller; 1 gent; 2 grocers; 2 husbandmen; 1 innkeeper; 1 smoothing iron maker; 3 tailors; 2 tanners; 2 yeomen. The identification of these people comes from the apprenticeship records and the published material of David Hey. The identified trades and occupations seem to be typical of a small market town.

The scissorsmiths of Sheffield First Part

The identified scissorsmiths and their smithy hearths

Table 4.5 lists the scissorsmiths, the numbers of their hearths and smithies, plus background details from the Cutlers' Company records. Thirty-three scissorsmiths have been identified, though it is not possible to differentiate between two men called John Shower (Shore). In addition, two entries for a Robert Pearson and a Robert Collie, may refer to either the fathers or the sons. Two thirds of the scissorsmiths had smithy hearths and three men were listed as poor, two having no smithy hearth.

number in Hearth Tax	surname	first name	sm	freedom or mark	background and links with other taxpayers
10	Burgon	Willm	2	1650	son of Edward husbandman, Todehole, app. to Robt Colley; master at entry no.91
11	Stanieford	John	2	-	several cutlers/scissorsmiths, but taken to be a scissorsmith
18	Shower	John	-	-	two possible scissorsmiths called John Shore; see entry no 205
39	Cooke	Tho.	-	a1640	son of Bryan, butcher, Ecclesfield, app to Wm Elliott, Wicker
86	Sims	Antho.	2	1641	son of Nicholas, husbandman, dec to Rich. Symes; master at entry no 155; apprentice at Shef 2nd 211
88	Crapper	Antho.	1	1664	son of Wm woodcutter, Stannington, app to Wm Hawke; master at entry no 93
89	Gillot	Hen.	2	1653	no background details
91	Collie	Robt	2	1640	son of Thos. cutler, [Colley] Elm, app. to Thos Pearson, sons Robert and Thomas at entry 92; apprentice at entry 83
92	Collie	Tho.	1	1667	son of Robert, scissors; father at entry 91
93	Hawke	Willm	2	1654	son of Wm, tailor, app. to Thos Maude; master at entry no 225; apprentice at entry 88
95	Hobson	Jose.	-	1660	son of Thomas, cutler, app. to Charles Smith, Attercliffe
100	Steven	John	2	1666	no background details
104	Smith	Jose.	2	-	possibly scissorsmith; in 1676 renting part of Clough wheel with John and Richard Sims, scissorsmiths
105	Brownell.	Fran.	1	1655	jun.; son of Francis, scissorsmith; father at entry no. 107
106	Stephen	Edw.	2	1632	son of Francis, dec., app. to Charles Greaves; apprentices at entry 180 and 196
107	Brownell	Fran.	-	-	senior. no background details; son at entry 105
123&4	Tupman	James	2	1647	son of Thos husb., app. to Richard Simes; master at entry no 155
126&7	Machen	Robert	2	1663	son of Robt. labourer, app. to George Trippett, master at entry no 154
152	Jeffcock	Tho.	2	1669	son of Richard, Whiteley Wood, tailor, app. to Geo Jeffcock master at entry Shef 2nd 228
154	Trickitt	George	2	1647	[Trippett]no background details; apprentices at entry 205 or 15 and 126
155	Sims	Rich.	2	1627 ?	son of Rich Symes, husb. app. to Charles Greaves; apprentices at entry 86 and 123
169	Barlay	Willm	3	1652	[Birley]no background details; apprentices at entry 187, 202, Shef 2nd 174 and 204
180	Shore	Ralph	2	M1661	son of Humfrey, mason app. to Edward Steven; master at entry no 106
187	Schorah	Tho.	-	a1646	son of Francis, joiner app. to Wm Birley ; master at entry no 169
193	Brittlebanke	Edw	1	1656	son of Hugh, husbandman, Thorpe, dec, app. to John Ratcliffe
196	Shirtcliffe	Robert	-	a1640	son of John, tanner, Eckington, app. to Ed. Steven; master at entry no 106
204	Scargill	Willm	-	a1661	son of George cutler, dec. app. to Wm Birley; master at entry no 169
205	Shower	John	-	-	two possible scissorsmiths see entry no 18
207	Broadbent	Robt	2	1662	son of Thos, husbandman, Bridgehouses, app. to George Machon, Pitsmoor
208	Pearson	Robt	-	1646	son of Thos or son Robt. F1668; this entry for father or son
221	Arnold	Joseph	2	1651	son of Thos, mason, app. to Wm Birley; apprentice at entry Shef 2nd 45
225	Mawer	Tho.	1	1643	[Maude] son of Richard, axesmith, app. to Wm Hartley; apprentice at entry 93

Table 4.5 List of identified scissorsmiths in Sheffield First Part. Those names underlined are men who did not originate in Sheffield Township.
a = apprenticeship date, sm = smithy hearth

Most of the scissorsmiths came from Sheffield and the names underlined are those men who originated outside Sheffield Township. They generally came from within Hallamshire but one man, Edward Brittlebank (see Chapter Three) came from

Thorpe, north-east of Sheffield parish. A large proportion of the identified scissorsmiths were freemen, suggesting that non-freemen may have evaded taxation, or may have been dwelling with other taxpayers. That identified taxpayers were generally freeman is a feature that recurs throughout this study and one reason may be the reliance on the Cutlers' Company records for correlating information. Masters of apprentices, i.e. freemen, are more likely to be identified, perhaps giving an undue emphasis to this aspect.

Links within the scissorsmith community

1620s	1630s	1640s	1650s	1660s
Sims Richard (155)	Stephen Edward* (106)	Sims Anthony (86)	Burgon William * (10)	Crapper Anthony (88)
		Collie Robert* (91)	Gillot Henry.* (89)	Collie Thomas (92)
		Tupman James* (123)	Hawke William (93)	Hobson Joseph. (95)
		Trickitt George (154)	Brownell Francis jun.* (105)	Steven John (100)
		Schorah Thomas (187)	Barlay William (169)	Machen Robert* (126)
		Pearson Robert (208)	Brittlebanke Edward (193)	Jeffcock Thomas (152)
		Mawer Thomas (225)	Arnold Joseph* (221)	Shore Ralph* (180)
				Broadbent Robert* (207)

Table 4.6 Freemen scissorsmiths identified in the Hearth Tax for Sheffield First Part, listed in the decade they completed their training. Their entry in the Hearth Tax lists is given. * indicates masters who had at least one apprentice around 1672.

The community of scissorsmiths in this part of the town were aged mainly in their 30s, 40s and 50s and if the records are correct, two men were quite elderly, though perhaps other younger freemen were not in a position to rent property and set up home. A small proportion of men had registered apprentices working with them when this Hearth Tax was being taken. From the background details of these men,

twenty-two scissorsmiths in Table 4.5 were connected to at least one other, through family links or in their roles as master and apprentice. This tightly knit group trained each other's sons and several apprentices from outside Sheffield became integrated into this community. Perhaps the impression of a self-contained group is illusory, since relatively few scissorsmiths were recorded for this part of Sheffield, so any boy wishing to become a scissorsmith had little choice of master. However, because the group was small, everyone would know what each man was doing, the prices charged, the wages paid and who might be flouting the rules relating to apprentices. These small craft groups became a characteristic of the trade unions in the 19th century, especially when the manufacturing processes were fragmented.

Table 4.7 gives the masters and their apprentices up to 1672 and attempts to show the links within this scissorsmith community. The names in blue appear in the Hearth Tax returns, while the names in capitals were masters of apprentices. The apprentices are numbered and entered under the decade in which they completed their training, with their freedom date (F) or the potential freedom date (pf) if they did not become freemen. It is clear from this diagram that some men were keen on training boys, ignoring the byelaw, which stated that a master might only have one apprentice at a time. Robert Collie (father and son) and Richard Sims gave rise to family dynasties with further links through training, when their apprentices stayed in the area. This is a good example of the guild system in practice, showing how an industry expanded by an increase in the number of trained men. The Cutlers' Company strove to limit this rise by restricting apprenticeships, but an increase was inevitable, since masters did not die as quickly as apprentices became trained.

1620s	1630s	1640s	1650s	1660s	1670s
		2.ANTH. SIMS F1641 (86)	2.1.Thos Peck F1653 (Shef 2nd 211)	2.2Edward Whitehead F1660	2..3JohnSims F1672
RICH. SIMS F1627 (155)	1. William Trippett F1636		4.Joseph Staniforth F1650 5.Richard Kirkby pf 1655 6.Richard Worrall F1659	7.John Urrin F1665	8.Edward Cawton F1672
		3.JAS. TUPMAN F1646 (123)	3.1James Roberts F1660 3.2Richard South pf1665		
Charles Greaves, Sheffield	ED. STEVIN F1632 (106)	1.Robt Shirtcliffe pf1648 (196) 2.Anthony Edwards pf1646		3. RALPH SHORE F1661 (180)	3.1.Nathaniel Morris F1670
	no background data	FRAS BROWNELL,sen (107)	1.FRAS BROWNELL F1655 (105)	1.1Henry Taylor F1666	1.2.John Hanby F1673 1.3.Wm Birch F1677
				4. MICHAEL STEVIN F1661	4.1.William Whitaker F1674 4.2.Thomas Parker F1678
			1.WM BURGON F1650 (10)	1.1.George Twigg F1665 1.2.Anthony Morris pf1666 F1680	1.3.Robert Ashmore F1675 1.4.William Burgon F1677
no background data	*Thomas Colley, Sheffield*	ROBT COLLIE F1640 (91)	2.ROWLAND BRAMHALL F1654 (Shef 2nd 182)		2.1.Thomas Bramall F1677
			3.Robert Collie F1657 (91?)	3.1.Thomas Collie F1664 (92)	3.2.George Collie F1676
James Scovin, Sheffield	*Wm Hartley, Sheffield 2nd, 246*	THOS MAUDE F1643 (225)	1.WM HAWKE F1657 (93)	2.Anthony Crapper F1662 (88)	3.Joshua Wainwright F1671 (Ecclesall 96?)
	no background data	GEO. TRIPPETT F1647 (154)	1.John Shawe pf1650 (205 or 15) 2.Robert Trippett F1653 (Shef 2nd 9)	3.Robert Machon F1663 (126)	4.John Fearneley F1671 3.1.Joseph Smith F1676
		no background data	HENRY GILLOTT F1653 (89)	1.George Hollingworth F1664	2.Wm Collie F1670 (Shef 2nd 35)
	no background data	*no background data*	WM BARLEY F1652 (169) 1.Thos Ryton pf1658	2.John Crooks F1665 3.Thos Skargill F1663 (Shef 2nd 174)	4.William Skargill pf1670 (204)
	no background data	*Wm Birley*	JOS ARNOLD F1651 (221)	1.Robt Crooks F1665 (Shef 2nd 45)	2.John Cade pf1673 3.John Hudson F1672
	no background data	*John Ratcliffe, Sheffield*	ED BRITTLEBANK F1656(193)		1.Jonathan Morris F1672 2.William Bark pf1679
		no background data	*Charles Smith, Attercliffe*	JOS HOBSON F1660 (95)	1.Samuel Beal F1677
	no background data	*Robert Twigg, Sheffield*	*George Machon, (Brightside 51)*	ROBT BROADBENT F1662 (207)	1.Chris. Roberts F1675 2.John Allen pf1679
	no background data	*Robert Twigg, Sheffield*	*Geo. Jeffcock,(Sheffield 2nd 228)*	Thos Jeffcock F1669 (152)	

Table 4.7 Links in training of identifiable masters and apprentices within the scissorsmith community in this part of Sheffield. Numbers in brackets denote Hearth Tax sequences. Names underlined denote 'outsiders'.

The potential workforce increased dramatically during the decades from the 1640s, even from the few identified masters. It is striking that most of the apprentices became freemen who in turn, contributed to the increase in trained men. It has to be emphasised that we cannot list all the apprentices, since there would be freemen's sons who were trained but not officially registered with the Cutlers' Company. Most of the trained apprentices appeared in the Hearth Tax for Sheffield First Part, but a couple went to Sheffield Second Part and one man may have returned to his widowed mother in Ecclesall.

Some craftsmen, who had completed their training by 1672, are unaccounted for in the Hearth Tax, either in Sheffield or elsewhere in Hallamshire. Eleven of the 'outsiders' cannot be identified. It is suggested that these and other trained scissorsmiths moved out of the area altogether, were resident with their masters or parents, or they were exempt from taxation because of their poverty. Masters who registered apprentices in 1671 and 1672 should have been taxpayers and according to the apprenticeship records, twelve scissorsmiths in Sheffield took apprentices in 1671 and 1672. Of these, three men - Robert Cooper, Edward Hancock and John Syms - cannot be found in the Hearth Tax anywhere, though John Syms was the son of Anthony Sims, listed 86th in Sheffield First Part. Edward Hancock, F1668, came from Brimington to be trained by Thomas Twigg who had one smithy in this part of Sheffield but lived in Sheffield Second Part with a further *four* smithy hearths. Possibly, Hancock was working for Twigg and may have been living in his house. If this were so, did Hancock's own apprentice live in Twigg's house too? No suggestions can be offered for the whereabouts of the final master, Robert Cooper.

Chapter Three described the production methods and processes in scissor manufacture and showed how the men required a smithy hearth, grinding equipment and a workshop for assembly. However, ten scissorsmiths did not have forging facilities and four were non-freemen. Thomas Scorah or William Scargill had been trained by William Barley (Birley) who had three hearths so perhaps they continued to work for him. Robert Shirtcliffe might also have continued to work with his master Edward Steven, who had two hearths, but non-freeman Thomas Cooke appears to have no connection with any of the Sheffield First Part masters. Francis Brownell, senior, was poor and had no smithy hearth, but he might have ceased working (age unknown) or have been working with his son Francis nearby. The remarkable feature of this group of craftsmen is that about half of them had two or more smithy hearths. The freemen scissorsmiths, like all the other cutlery masters, could have had journeymen and apprentices working with them, but it is not clear why so many had multiple smithy hearths.

Turning from the forging capacity to the grinding facilities for scissorsmiths, the map in Appendix B3 shows the water-powered grinding wheels available to all Hallamshire craftsmen in 1672. Seven grinding wheels within reach of the town centre craftsmen and seem quite enough to satisfy the demand by the scissorsmiths. However, they would have been in competition with at least 125 craftsmen who have been identified in the Sheffield Township plus craftsmen in adjacent townships. Harrison's survey of 1637 shows that the cost of rental for the wheels varied; half of Morton Wheel cost three men a total rent of £7.10s.0d. per year, while an un-named wheel on the Rivelin cost two men a total of £1.10s.0d. This difference may indicate the size of the operation, but may also indicate a response to demand. More grinders justified the higher rents. The two water-powered sites nearest to Sheffield town were corn mills - the town mill on the Don and the Ponds mill on the River Sheaf, but

cutlery grinding facilities were on the Don at Morton Wheel, Kelham Wheel and the Wicker Wheel, east of the town. Sheffield scissorsmiths would have had a lengthy walk to Clough wheel on the Sheaf or the Hinde and Cinderhill wheels on the River Porter in Ecclesall Bierlow. A rental for 1670 with leases beginning in 1676 show that Sheffield scissorsmiths did use waterpower for grinding their blades[6]. William Hawke (93) shared the 21-year lease with two other men for part of Cinderhill wheel, for which they paid £3 per year. Richard Sims (155), John Sims and Joseph Smith (104) took a similar lease for part of Clough Wheel, also paying £3 per year. However, the costs in rent and time have to be compared with the convenience of grinding equipment in the workshop and turned by hand or foot.

Rentals surviving for some of the water-powered grinding wheels name the main tenants, but it is difficult to appreciate how the system might have worked. It is clear that men took out leases on parts of a wheel, but it is not apparent how the individual grinding trows were hired out. The discussion in Chapter Three shows that men had their own equipment at grinding wheels and that, after forging blades for scissors or knives, etc, time had to allocated to grind them before assembling them. The will of James Taillor, 1554, gives the clearest indication of how one cutler was working. Taillor left his son a grinding wheel with an instruction that a second son be allowed to grind there one day a week, providing he indicated when he would require the time. Possibly men took a week or so, every now and then to do their own grinding or sent their journeymen. However, evidence from at least one scissorsmith, Edward Brittlebank, shows this might not always be the case. He was buying metal and returning manufactured scissors weekly; his Storehouse entries do not indicate that he had stockpiled blades for regular sessions at the grinding wheel.

Summary

The exact route taken by the Collectors around Sheffield streets is not known. We cannot show the geographical distribution of the scissorsmiths, but the entries for the identified scissorsmiths do appear to form clusters, suggesting actual physical proximity. From the route suggested above, that the majority lived in the streets going down the hill to the Ponds area between entry numbers 56-106.

This exercise in correlating two major sources of information has successfully shown what is possible. The apprenticeship and freedoms records of the Cutlers' Company enhance the data in 1672 Hearth Tax Returns for Sheffield First Part. From the correlation, it has been possible to reconstruct the close organisation and links within a craft community. The Sheffield scissorsmiths were a small and distinct group, which could attract and retain outsiders, increasing the work force. Almost all the identified scissorsmiths were freemen, with one or more smithies and, since only three out of thirty-four men were listed as poor, the scissorsmiths were not at the absolute poverty level.

The cutlers

The majority of the cutlery craftsmen in Sheffield First Part were cutlers.

The cutlers and their smithy hearths

The graph in Figure 4.3 appears dominated by the 'red' of the cutlers, giving the impression of almost total involvement in the trade in this part of Sheffield. The community is too large to consider giving detailed descriptions of the links within it.

However, it is useful just to consider the sheer size of the group and that in some areas; almost every household was involved in knifemaking. Table 4.3 has the sequence of all the smithy hearth owners, but Table 4.8 will list all the cutlers, with and without smithy hearths.

sequence	smithy
6	-
9	-
14	-
16	1
19	1
24	2
35	-
42	1
51	1
52	-
58	-
59	1
62	2
65	1
66	-
71	1
78	-
79	1
85	1
87	1
90	-
94	2
101	1
102	1
103	1
108	1
109	1
110	1
112&3	1
115	1
116	-
117	1
118	1
119	*1*
121	-
128	-
130	2
131	1
132,3,4	1
137	-
139	-
141	-
142&3	1
144	-
145	-
146	-
147	-
149	1
150	-
153	-
156	-
160	-
161	-
162	-
163	1
164	1
165	1
170	1
171	1
172	1
174	1
175&6	1
178	1
179	-
185	-
186	-
188	1
190	-
191	1
195	1
196	-
197	-
198	-
199	-
202	1
203	1
206	1
112	-
215	*1*
216	2
217	1
220	1
224	2

Table 4.8 Sequences in the Hearth Tax returns for Sheffield First Part for identified cutlers, with the number of their smithy hearths. The numbers in italic indicate the taxpayers who were poor.

Eighty-four entries are identified cutlers, though there are multiple entries for some men. Entries 112 and 113 are for Robert Brelsforth, the first for his domestic hearths and the second for his smithy. The same occurs for Thomas Melton (142 & 143) and James Webster (175 & 176). John Sutton has three entries (132-134); one for his domestic hearth, one for his smithy and one as owner of a property for which the

tenant was not liable. Finally, Matthew Arnold, Master Cutler in 1672, appears for two consecutive properties (164 and 165), both with smithies. Over half the men had smithies including six who had two smithies, a much smaller proportion that the scissorsmiths.

The sequence of entries for cutlers suggests houses with smithies were grouped in twos or threes, perhaps round a courtyard. It is noticeable that very few cutlers lived on Church Lane, High Street and Fargate. This listing shows that several areas have consecutive entries for cutlers and it is unfortunate that the spatial distribution cannot be determined. There appears to be groups of houses where there are no smithies, as well as consecutive properties which do have them.

Summary

The cutlers were the largest group of metalworkers in Sheffield First Part and except for the High Street area, lived in almost every house. Of those who have been clearly identified, over half had their own smithy hearth. This is a significant number when considering the trade organisation. The filesmiths, shearsmiths and awlbladesmith made up a very small proportion of the metalworking craftsmen in Sheffield First Part. Because there were so few men, it has been possible to show the close connections between the craftsmen in these groups. The shearsmiths, like the scissorsmiths, generally had multiple smithy hearths, and all the groups show that the majority of the taxpayers were both freemen and smith hearth owners.

Conclusion to Sheffield First Part

The First Part of Sheffield town, south of Irish Cross, included some of the inns and larger houses of the professional people, along the main streets. It also included the Cutlers' Hall. The cutlers dominated this area, in some parts living in every house, while the few identified filesmiths, shearsmiths and awlbladesmiths, made up a very small and scattered part of the town's industrial community. The identification of almost all the smithy hearth owners has highlighted important organisational features in the manufacture of cutlery. Not every trained craftsman has his own smithy hearth and those who did not, tended to be non-freemen or poor. It is suggested that either these men specialised in a process other than forging, or they worked for a freeman at his smithy. The case study of the scissorsmiths has demonstrated the close training and family links in the group and has shown the tendency for these craftsmen to have multiple smithy hearths.

The attempt to determine accuracy of the Hearth Tax returns, by correlating the data with that of the Cutlers' Company, is difficult to assess. In the detailed analysis of the scissorsmiths, several trained craftsmen are untraceable. This fact suggests that more men than has previously been recognised were living as lodgers, with their family or their master.

Sheffield Second Part

The Second or Nether Part of Sheffield Township was the area north of the Irish Cross, with streets and fields spreading down towards the River Don and beyond the Sheaf Bridge into the old hunting park. Fewer people have been identified here and, because this part included open land to the north and southeast of the built-up area,

the analysis is less successful in locating people and describing the route taken by the tax assessors.

General description

number of taxpayers	292	empty	9
number of hearths	768	new chimneys	16
average number of hearths	2.6	demolished chimneys	-
number of smithies	96		
number of properties with smithies	77	poor with or without certificates	41
%age of taxpayers with smithies	26.4	widows and other women	31

Table 4.9 Quantitative analysis of the 1672 Hearth Tax returns for Sheffield Second Part.

Sheffield Second Part had more taxpayers than the First Part but the overall impression is of a poorer part of the town. More people had only one and two domestic hearths, fewer of the middle range of buildings with four to seven hearths and significantly, fewer properties with smithies. Compared to Sheffield First Part, this area had more women as taxpayers and almost twice as many poor people. Although the impression is of a poorer part of the town, twenty-four men were listed as 'Mr', including the schoolmaster. The tax return included two non-residential properties - the Free School (entry number 25), near the Townhead Cross and the Bakehouse (280) in Pudding Lane, between the Market Place and the castle. There were two remarkable properties, one with twenty-one and the other with thirty-six hearths. Originally built as a mediaeval hunting lodge at the centre of Sheffield's deer park, Manor Lodge had been rebuilt as a grand house in the mid-16th century by the Earls of Shrewsbury. By the mid-17th century, the absentee Lords of the Manor,

the Arundels, had allowed the park to decay and be set out as fields, so the old house was divided into two properties for the Lord's chief officers.

Distribution of the identified taxpayers

As with Sheffield First Part, the Second Part tax return is presented in graph form showing the occupations of the identified taxpayers. The housing appears more varied and the 'red' of the cutlers is not so dominant. Assuming the assessors took a logical route, the dividing line between the two parts of the Townships can estimated by the names of the people. The first entry is for Mr Burbeck, clergymen, implying the assessors began near the parish church, at Vicarage Croft. The 15th entry was the huge Angel Inn near the Market Place and the 25th was the Free School, which was situated at the Town Head. The first thirty entries indicate larger houses where ten of the entries were for men who were styled 'Mister' and five more were women. It is suggested that these taxpayers were on the north side of High Street and Church Lane, which appears similar to the First Part, with few cutlers or other metalworkers. Easily identified entries were for Manor Lodge (281 and 282) and an identified husbandman (284) and cutler (291) can therefore be placed in the Park area.

smithies		shear/sicklesmiths	
women		others	
cutlers		filesmiths	
scissorsmiths		awlbladesmiths	

Table 4.10 The colours used in the distribution graphs in Figure 4.4.

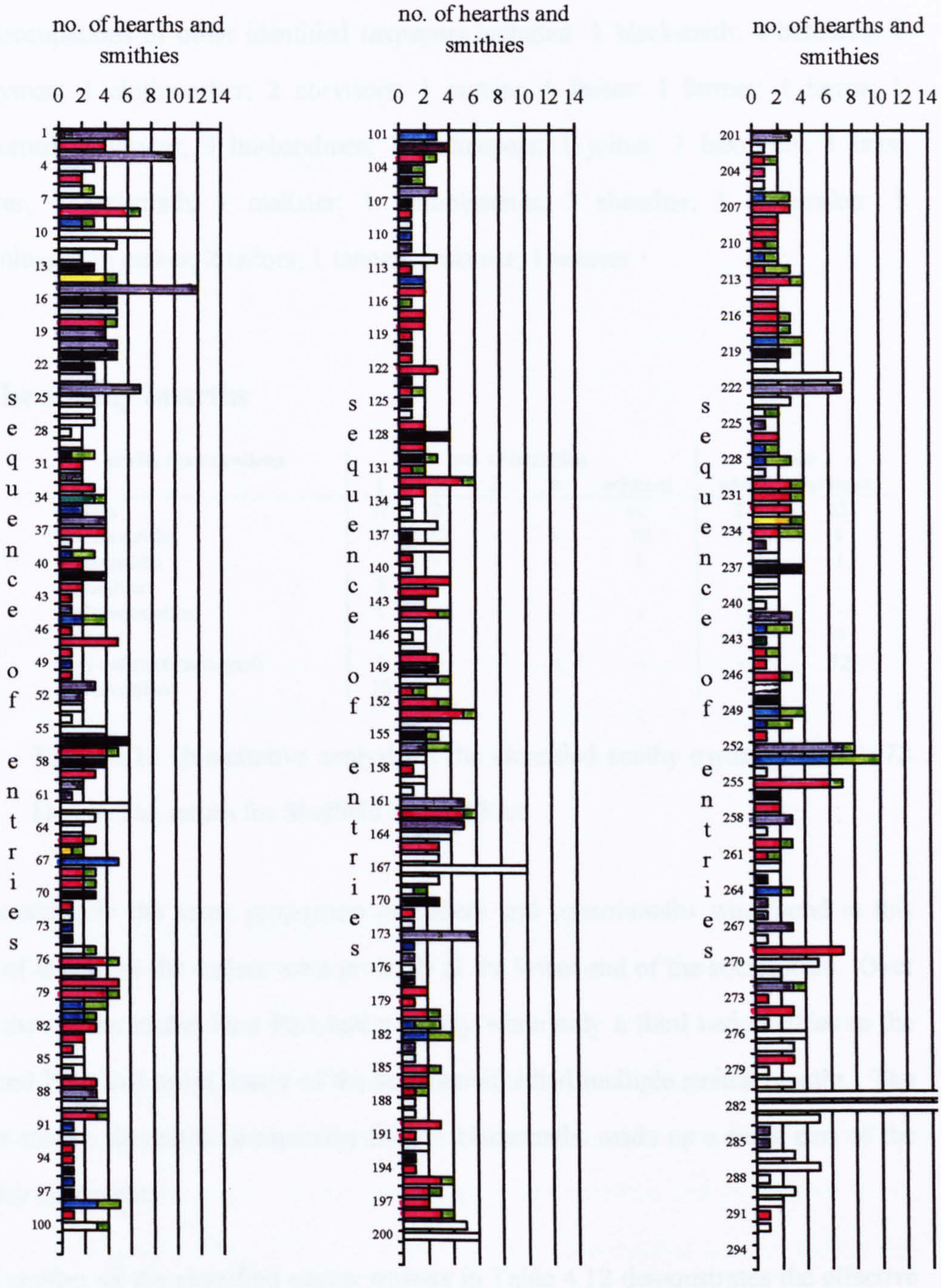


Figure 4.4 The distribution of hearths and smithy hearths in Sheffield Second Part.

The occupations of other identified taxpayers included :1 blacksmith; 4 butchers; 1 clergyman; 1 clothworker; 2 corvisors; 1 currier; 1 factor; 1 farmer; 1 ferror; 1 gentleman; 1 grocer; 3 husbandmen; 3 innkeepers; 1 joiner; 1 labourers; 1 linen weaver; 1 locksmith; 1 maltster; 1 schoolmaster; 3 sheather; 1 shoemaker; 1 smoothing iron maker; 2 tailors; 1 tanner; 1 vintner; 1 weaver.

The smithy hearths

crafts / occupations	no. of smithies					poor	
	1	2	3	4	without	with	without
cutlers	37	2	-	-	61	2	12
scissorsmiths	5	12	-	1	10	2	1
shearsmiths	-	-	-	-	1	-	1
filesmiths	3	-	-	-		-	-
awlbladesmiths	1		-	-	1	-	-
women	4	1	-	-	-	1	9
non-cutlers (innkeeper)	1	-	-	-	-	-	12
not identified	10	-	-	-	-	-	-

Table 4.11 Quantitative analysis of the identified smithy owners in the 1672 Hearth Tax return for Sheffield Second Part.

Approximately the same proportion of cutlers and scissorsmiths was found in this part of town, but the cutlers were probably at the lower end of the social scale. Over half the cutlers in the First Part had a smithy while only a third had smithies in the Second Part, but again, many of the scissorsmiths had multiple smithy hearths. The other trades, filesmiths, shearsmiths and awlbladesmiths made up a small part of the cutlery community.

The number of the identified smithy owners in Table 4.12 demonstrates the effective correlation between the Cutlers' Company records and the Hearth Tax returns. While this appears to be an impressive involvement in cutlery manufacture by the inhabitants of Sheffield, Table 4.11 shows there were a further seventy-five metalworkers who did not have smithy hearths.

sequence & craft		smithies																					
8	c	1	57	c	1	103	c	1	151	c	1	203	c	1	250	s	2
9	s	1	65	c	1	104	w	1	152	c	1	206	s	2	253	s	4
14	f	1	66	f	1	105	w	1	153	c	1	210	c	1	255	c	1
18	c	1	68	c	1	116	c	1	155	w	1	211	s	1	260	c	1
30	w	1	69	c	1	124	c	1	162	c	1	212	c	2	261	c	1
34	a	2	76	c	1	130	w	1	180	c	1	213	c	1	264	s	1
39	s	2	79	c	1	131	c	1	181	s	2	216	c	1			
45	s	2	80	s	2	132	c	1	182	s	2	217	c	1			
			81	s	1	144	c	1	185	c	1	218	s	2			
			90	c	1				187	c	1	227	s	1			
			98	s	2				195	c	1	228	s	2			
									196	c	1	230	c	1			
									198	c	1	231	c	1			
												233	f	1			
												234	c	2			
												242	s	2			
												244	c	1			
												246	c	1			
												249	s	2			

Table 4.12 The sequence of smithy hearth owners in Sheffield Second Part.

w =women; a = awlbladesmith; c = cutler; f = filesmith; s = scissorsmith

Scissorsmiths in the Second Part

Twenty-eight scissorsmiths have been identified, making it a community of similar size to that in the other part of Sheffield. It would be wrong to view these two groups as mutually exclusive communities and there do seem to be links with the craftsmen in the First Part. More scissorsmiths here were trained by masters in the First Part, than vice versa. Almost a third of the scissorsmiths had no smithy and Francis Sykes, Thomas Beck [Peck] and Thomas Willie were poor men. The impression is that these scissorsmiths were not quite so affluent, even though some had houses with five and six domestic hearths and most of the smithy owners had two smithies.

The background details from the apprenticeship records show that only four men came from outside the Sheffield Township, but a high proportion did not have a cutlery background. Fourteen boys had no connection with the cutlery trades in general and only two boys can be confirmed as the sons of scissorsmiths. As with the community in Sheffield First Part, men were connected to others in the group, either by training or through the family, though there were fewer connections because six men were trained in the First Part. This evidence, together with the number of boys from a non-cutlery background, suggests that the Second Part had a 'lower status', where men with fewer connections and less money might settle.

1620s	1630s	1640s	1650s	1660s
Thomas Badger (181) *	William Ward (73)	William Greene (101)	Robert Tripitt (9)*	Anthony Woodhouse (39)*
	Thomas Willie (91)	William Leach (206)	William Twigg (96)*	RobertCrookes (45)
	James Hoole (114)		Rowland Bramhald (182)	Thomas Badger Jun. (80)
	John Jeffcock (249)		Thomas Beck (211) *	Robert Thwaites (81)
	William Hartley (264)		Edward Badger (218) *	Thomas Pearson (98) *
			Francis Sykes (227)	Thomas Scargill (174)
			George Roger (242)	George Jeffcock (228)*

Table 4.13 Freemen scissorsmiths identified in the Hearth Tax for Sheffield Second Part, listed in the decade they completed their training. Their entry in the Hearth Tax lists is given. * indicates masters having at least one apprentice around 1672.

When we compare the information in Table 4.13, we find more older masters than those in Sheffield First Part (Table 4.7).

sequence in Hearth Tax	surname	first name	sm	freedom or mark	background and links with other taxpayers
9	Tripitt	Robt	1	1653	son of John, cutler, app.to George Trippett; master at entry Shef 1st 154
35	Collie	Willm		1670	son of Robert, scissorsmith father at entry Shef 1st 91
39	Woodhouse	Antho.	2	1662	son of Anthony baker dec. app. to Matthew Steven
45	Crookes	Robt	2	1665	son of Wm, malster app. to Jos. Arnold, master at entry no. Shef 1st 221
49	Robinson	Tho.		a 1646	son of George, cutler, dec app. to Thos Beane, Carbrook
67	Scargill	Jos.		1672	son of George, cutler dec app. to Thos Scargill, brother; master at entry no 174
73	Ward	Wm		1639	son of Wm carpenter app. to Thos Willie; master at entry no 91
80	Badger	Tho.	2	1667	Jun.Constable; son of Wm, husbandman, app. to Wm Creswick
81	Thwaites	Robt	1	1667	putative son of Robt Browne soldier app. to Thos Badger; master at entry no 181
91	Willie	Tho.		-	no details
96	Twigg	Willm		1658	son of John scissorsmith; father ? at entry no 250
98	Pearson	Thos	2	1668	several possibilities
101	Greene	Willm		1647	son of Francis, husbandman app. to Robert Twigg; master ? at entry 110
110	Twigge	Robt		-	several possibilities; possible apprentices at entry no 206 and 228
114	Hoole	James		1636 or a1634	a)son of Charles, corviser, Wakefield app. to Ed Creswick or b) son of Wm tanner to Charles Smith, Attercliffe
174	Scargill	Thos		1663	son of Thos cutler, dec app. to Wm Birley master at entry Shef 1st 169
181	Badger.	Tho.	2	-	Senior, no details; apprentices at entry no 81 and 227
182	Bramhald	Rowland	2	1654	son of Edward, husbandman, Stannington, app to Robt Colley; master at entry at Shef.1st 91
206	Leach	Wm	2	1641	son of Wm, miller, Attercliffe app. to Robert Twigg; master ? at entry no 110
211	Beck	Tho.	1	1653	Peck; son of Wm or Archibald, husbandman, app to Anthony Symes; master at entry no Shef 1st 86 Wid. Peck at entry no.149
218	Badger	Edw.	2	1656	no details
227	Sykes	Fran.	1	1655	son of Robert husbandman app. to Thos Badger, master at entry no 181
228	Jeffcock	Geo.	2	1660	son of Richard, tailor app. to Robert Twigg, master entry 110; apprentice and brother at entry Shef1st152
242	Roger	Geo.	2	1654	son of Matthew, sheather app. to Nich. Bamforth, sen;
249	Jeffcock	John	2	1637	son of Thos, weaver app. to Antony Green possibly grandfather of George at entry no.228
250	Twigg	John	2	-	several possibilites
253	Twigg	Tho.	4	1670	no details
264	Hartley	Wm	1	1630	several possibilities; apprentice ? at entry Shef 1st 225

Table 4.14 The scissorsmiths of Sheffield Second Part. Those names underlined originated outside Sheffield Township

1620s	1630s	1640s	1650s	1660s	1670s
THO.BADGER (181)	1.John Ratline F1636	2.Alexander Anderton F1642 3.William Dawson pf 1643 4.William Taylor pf1645	5.Francis Sikes F1655 (227)	6.Joshua Bailey F1664 7.Alexander Anderton F1666 8.Robt Thwaites M1667 (81)	9.William Barber F1675
no background data	THOMAS WILLIE (91) 1.William Ward F1639 (73)	2.William Walker pf 1649			
		1.MATTHEW STEVEN F1642		7.ANT. WOODHOUSE F1662(39) 7.1.Wm Hewit pf1668	7.2.John Ramsker F1674 7.3.Jos Broadbent F1678
James Scovin,	WM HARTLEY F1630 (246)	2.Thos Maude F1643 (Shef1st225) 3.Robert Steven pf 1644 4.Thomas Newbould F1647	5.THOMAS SWIFT F1653 5.1John Shore F1659 Shef.1st		
			6.ROBERT BIRKINSHAW F1655	6.1William Bingley pf1663	
Robert Twigg	*George Machon, Pitsmoor*	WM LEACH F1646 (206)	1.Nicholas Steven F1654 2.William Amory F1658	3.William Ward pf1664 F1675	
		no background data	ROBT TRIPITT F1653 (9)		1.John Smyth F1679
Table 4.15 Links in training of identifiable masters and apprentice scissorsmiths in Sheffield 2nd Part	*Richard Sims, Shef. 1st pt. (155)*	*Anthony Sims, Shef. 1st pt. (86)*	THO. BECK F1653 (211)		1.Stephen Parker pf1671 2.Thos Dunn F1677
	Thos. Pearson	*Robert Collie, Shef. 1st pt. (91)*	ROID. BRAMHALD M1654 (182)		1.Thos Bramhall F1671
		no background data	EDW. BADGER M1656 (218)		1.Wm Scorah pf 1670 2.Thos Bower F1671 3.Richard Riche pf 1675 4.Thos Creswick pf 1677 5.Joseph Smyth F1677
	John Twigg, Wicker	*Nicholas Stevenson, Sheffield*	WILLM TWIGG F1658 (96)		1.Tristram Bird pf1674
		no background data	*Robert Twigg, Sheffield*	GEO. JEFFCOCK M1660 (228) 1.Thos Jeffcock F1669	2.Thos Moulson pf1677 (Shef 1st 152)
		John Twigg, Wicker	*Nicholas Stevenson, Sheffield*	THOS PEARSON F1668 (98)	1.Benjamin Mullins F1676

Links within the scissorsmith community

In Table 4.15, twenty-one men do not appear in the Hearth Tax returns, having been trained by the Sheffield Second Part masters and completing their apprenticeships by 1672. Thirteen were freemen who might have taken apprentices, but only Matthew Steven, Thomas Swift and Robert Birkinshaw appear to have done so. Swift and Birkinshaw only took one apprentice each, but Matthew Steven was training boys right through the 1670s and therefore should have been in the Hearth Tax Returns.

The Steven family (various spellings) appear in the Cutlers' Company from 1624 and five Stevens were recorded in the Hearth Tax list. The earliest recorded men were Francis and Arthur, scissorsmiths, who gained their freedoms in the 1630s and both had sons. In Sheffield First Part, James and John were cutlers, each with a smithy hearth. Edward was a scissorsmith with two smithy hearths and a widow Stevin had a single smithy hearth. Another widow Steven lived in Sheffield Second Part but without a smithy hearth. Michael Steven's brothers Nicholas, Matthew and Robert had also been trained as scissorsmiths in Sheffield Second Part and evidence suggests that these non-taxpayers were living together or with the widows.

The practice of taking boys for very long apprenticeships was an aspect of the cutlery trades, which might explain the likelihood of the 'missing' men being lodgers. Before 1624, it was common practice to indenture an apprentice with further years as a journeyman. Leader quotes examples from indentures which state the amount of money to be given to an apprentice and to the journeyman, who could expect 30s. or 40s. a year.[7] Clearly, this was not sufficient to maintain a separate household. The practice of binding journeymen to their master appears to have been made illegal after the 1624 Act but continued, as did very long apprenticeships, which might have been

used to disguise this practice. Before 1672, there were 668 apprenticeships lasting more than eight years and two were as long as sixteen years. Only a third of these apprenticeships resulted in freedoms and the men often waited several more years before taking out their freedoms. A hundred and five men waited more than a year but eleven men waited more than ten years, possibly until their situation would benefit from being a freeman. In 1660, Stephen Parker, a poor boy, was apprenticed to Thomas Beck (listed at 211) for eleven years. He did not take out his freedom in 1671 and did not appear in the Hearth Tax return. Similarly, in 1656, William Leach (206) took William Ward for nine years. Ward would have completed his training in 1665 but he waited until 1675 to become a freeman and he too does not appear in the Hearth Tax return. Ward and Parker might have remained with their masters as journeymen, perhaps being examples of such men who were tied to their masters. However, many men do not seem to have been in a position to set up work or a household at the end of their training.

Summary

The reconstruction of the scissorsmith community in the Second Part of Sheffield Township shows a group of craftsmen connected by family and training, though many had links with the First Part community. The impression is of a poorer group, more were without their own smithies and many had no background in metalworking. Although masters trained a number of apprentices and several, who cannot be traced in the Hearth Tax returns, may have lived with their masters or with their relatives.

The cutlers

The identified cutlers were the largest group of metalworkers and were spread around Sheffield Second Part. Unlike the First Part, there were more cutlers in the first fifty entries, which corresponded to the main streets in the town centre. Possibly the courtyards or the burgage plots behind the bigger houses had been divided up. Space seems to have been at a premium since very few of these cutlers had smithy hearths. Just over half the identified cutlers were freemen but only a third had a smithy hearth, though three men did have unfinished smithies.

sequence & craft	smithies											
2	-	57	1	103	1	151	1	*203*	*1*	251	-
5	-	59	-	108	-	152	1	207	-	257	-
8	1	65	1	113	-	153	1	208	-	255	1
18	1	68	1	115	-	158	-	209	-	260	1
31	-	69	1	116	1	162	1	210	1	261	1
33	-	71	-	117	-	*165*	-	212	2	269	-
37	-	76	1	118	-	171	-	213	1	*273*	-
40	-	78	-	119	-	178	-	*215*	-	274	-
42	-	79	1	121	-	*179*	-	216	1	278	-
43	-	83	-	122	-	180	1	217	1	291	-
46	-	84	-	124	1	185	1	226	-		
47	-	85	-	127	-	186	-	230	1		
48	-	87	-	129	-	187	1	231	1		
50	-	90	1	131	1	*190*	-	232	-		
		93	-	132	1	191	-	234	2		
		94	-	*133*	-	194	-	244	1		
		99	-	139	-	195	1	*245*	-		
				141	-	196	1	246	1		
				142	-	197	-				
				144	1	*198*	*1*				
				148	-						

Table 4.16 Sequences in the Hearth Tax returns for Sheffield Second Part for identified taxpayers who were cutlers, with the numbers of smithy hearths. The numbers in italic indicate the taxpayers who were poor.

The impression that this part of Sheffield was poorer than the other part is re-affirmed by the fact that half the cutlers here had only one or two domestic hearths and thirteen of the cutlers were listed as 'poor'. However, there were some influential people. Mr Richard Parra[more] who had been the Master Cutler in 1671, was 79th in the return, having four domestic hearths and a smithy. The identified cutlers came predominantly from a metalworking or agricultural background, though some were sons of weavers, one was the son of a clerk and another son of a miner.

Conclusion to Sheffield Second Part

The urban area to the north of Irish Cross included houses of the professional people, situated along the main streets of High Street and Church Lane, and was similar to the first entries for the First Part. Sheffield Second Part had large open areas to the north and south of the actual town, but only three or four entries in the old hunting park, including the Manor Lodge, have been identified. As in Sheffield First Part, the cutlers were spread over the whole area and the scissorsmiths formed a community with training and family links, though several were connected to masters in the First Part.

The filesmiths, shearsmiths and awlbladesmiths

Less than two dozen craftsmen from these three groups have been identified for the whole of Sheffield Township. Because two of the groups, the filesmiths and awlbladesmiths, were not part of the Cutlers' Company it 1672, it is difficult to add any further details to those in the Hearth Tax returns. Most were in the First Part and

the identified filesmiths, shearsmith and awlbladesmiths made up a very small part of Sheffield Second Part. Only six men in these three trades have been positively identified.

Filesmiths

Filemaking is considered to have been an urban craft.[8] There is no way of knowing the actual size of this community in 1672, but twenty-one filesmiths joined the Company ten years later, but the nine filesmiths identified in 1672 seems to be on the low side.

sequence in Hearth Tax	surname	first name	h	sm	further details
1st pt. 47	Roberts	Samll	3	-	d.1698, inventory described a smithy and 3,600 bricks.
54	Hancock	Samll	3	1	
84	Hellifield	Edw.	3	2	these newly erected; d.1690, inventory with smithy and tools
97	Hawksley	James	1	1	A Smithy 1 newly erected
157	Hanley	Jos.	3	1	A Smithy, dead by 1693
210	Woodhouse	John	3	2	two possibilities
2nd pt 14	Bower	John	4	1	son John to Henry Bingham, cutler, 1676
66	Howsley	Robt	1	1	sons Josias and Luke - parish apps. 1678, 82;
233	Hanley	Jos.	3	1	3 apprentices in 1686, 87, 88

Table 4.17 List of the identified filesmiths in Sheffield First and Second Parts

In the First Part, five men had smithy facilities in 1672 and Samuel Roberts had one by the time he died in 1698, when he was possibly intending to extend his property. His inventory listed 3,600 bricks, a novel building material at this time in Sheffield.

All the Second Part filesmiths had a smithy hearth, but Robert Howsley seems to have been poor even though he was not listed in the Hearth Tax returns as such. He had only one domestic hearth and his two sons were put out as parish apprentices to cutlers.

It is unfortunate that the filesmiths joined the Company some ten years after this Hearth Tax but the numbers of apprentices taken by the Sheffield filesmith masters (assumed to be in Sheffield because no place was entered into these indentures) shows, that once they were in the Cutlers' Company, they were not slow to expand the trade through training. In the decades up to 1720, the filesmiths trained the following number of boys, listed in the decade they finished their training, whether or not they took out their freedom.

Decade	numbers trained by Sheffield masters	total numbers trained in Sheffield and elsewhere
1680s	1	2
1690s	39	48
1700s	47	62
1710s	63	96

Table 4.18 The numbers of boys completing training as filesmiths, in Sheffield Township and the total for the whole of the area under the Cutlers' Company control.

The numbers clearly show that sufficient masters could train an increasing number of filesmiths. It suggests that the nine identified filesmith taxpayers made up a small proportion of the actual workforce.

Shearsmiths

The six identified shearsmith freemen made up another small craft group, most being connected by family and training links, even though three men were not from Sheffield Township. John Barber seems to have headed this group. The son of a Dore village farrier, he was trained by Nicholas Birley, who was possibly related to Christopher

Burley. John Barber trained Mallam Gillott and Ralph Hides, plus his own brother James. James and Mallam, without smithies, may have continued to work at their master's three smithies. The sole shearsmith in the Second Part had no smithy hearth and was poor. It is not clear why the shearsmiths would require multiple smithy hearths; two of them having three smithy hearths.

sequence in Hearth Tax	surname	first name	h	sm	freedom	further details
1st pt. 41	Burley	Chr.	2	3	1642	son of John, shearsmith to James Staniforth;
125	Barber	James	1	-	1665	son of Robt. farrier, Dore to brother John Barber at entry 135
129	Gillot	Mallam	1	-	1666	son of Henry cutler, dec to John Barber; at entry. 135
135	Barber	John	4	3	1646	son of Robt. farrier, Dore to Nicholas Birley, trained brother James Barber at entry.125;
148	Hide	Ralph	2	2	1666	son of Ralph, husbandman, Grenoside to John Barber, at, entry 135
2nd pt. 204	Webster	Robt	1	-	1641	no background details; listed as poor

Table 4.19 List of the identified shearsmiths in Sheffield First and Second Parts. Those names underlined originated outside Sheffield Township.

Awlbladesmiths

sequence in Hearth Tax	surname	first name	h	sm	background
1st pt. 36	Mason	Thomas	5	-	no details
96	Monke [Moake]	Thomas	2	1	no details
111	Monke [Moake]	Thomas sen	4	1	no details
181	Stringfellow	Henry	2	1	no details
183	Sands	William	2	2	no details
2nd pt. 34	Bullas	Richard	3	1	no details
243	Simond	Charles	1	-	no details

Table 4.20 The identified awlbladesmiths in Sheffield First and Second Part

Seven awlbladesmiths have been identified and because they only joined the Company in 1676, there are no background details for them. This group, as with the other smaller craft groupings, also show close connections through family or training. In 1683, Henry Stringfellow apprenticed his son William, to Thomas Mason's son, also called William. By the time Henry was dead in 1689, another son, Henry, junior, had been apprenticed to a filesmith. William Stringfellow's two sons, Jonathan and William, were both apprenticed to cutlers. These examples suggest one reason why the awlbladesmiths seem to disappear; fathers put their son into other trades. Richard Bullas, one of the two awlbladesmiths in the Second Part, had a smithy hearth and took three apprentices from outside Hallamshire. Charles Simond had neither smithy hearth nor recorded apprentices.

The Moake family had several awlbladesmiths and they appeared in the Storehouse records, making boxes. The two men of the same name joined the Company at the same time in 1676 and were probably father and son. One of these two took an apprentice in 1686, a boy from Wickersley, who did become a freeman, but took no apprentices. Francis Moake who joined the Company in 1676, is not found in the Hearth Tax, possibly because he lived with a relative. He apprenticed two of his sons to awlbladesmiths, but they do not appear again in the records. The family continued throughout the 18th century for Jeremiah Moake (no father given) was trained as a filesmith in 1752 and his son Jeremiah was similarly trained in 1779. The Masons and Sands were other families involved in the awlblade trade, but they gradually disappear from the records. Only Thomas Moake trained a boy to be an awlbladesmith, a possible indication of poor expectations for the trade.

Summary

These three small craft groups were overshadowed by the cutlers and scissorsmiths, but it is surprising that the identified shearsmiths and filesmiths were so few in number. Awlbladesmiths seem to have had a small market and they disappear from the records about fifty years later. Because the filesmiths and awlbladesmiths joined the Cutlers' Company after 1672, it is not possible to give any family or training details for the identified craftsmen

Overall Conclusions

The Hearth Tax returns provide evidence for the size and prosperity of communities, but this study has focused on the identification and distribution of the metalworking craftsmen, as seen through their capacity to forge blades. This Chapter has given a detailed analysis of the Hearth Tax returns and has demonstrated its potential as a means for reconstructing the metalworking communities. Sheffield Township contained about a quarter of the entries for the 1672 Hearth Tax returns for Hallamshire and had a considerable proportion of the identified metalworkers. The graphical presentation of the number of domestic hearths and smithy hearths, together with the colour-coded occupations of identified taxpayers, gives a clear view of the dominance of the cutlery trades. From the Hearth Tax evidence, some estimates can be made about the size and location of the metalworking communities, any specialisation or fragmentation of processes. It is also possible to estimate any under-recording of craftsmen, which with the background data, has demonstrated the usefulness of the Cutlers' Company records as corroborative evidence.

This chapter described the scissorsmith community in detail, revealing a close-knit group of about fifty-five men, linked through the family and training. It is unfortunate that the physical distribution of the houses cannot be established. The analysis has shown that the scissorsmiths generally had more than one smithy hearth. The fact that scissors have two blades and that all the forming processes require heat may perhaps be the reason. Another possibility is that they were able to afford better facilities and retain the services of their apprentices as journeymen.

By identifying the scissorsmiths for Ladyday, 1672, a base is provided from which to assess the completeness of the Hearth Tax data. The Sheffield case studies show that some craftsmen, who were trained by the identified scissorsmith taxpayers, do not themselves appear in the Tax returns. Searches for the missing scissorsmiths have been made in the parish burial registers and in the apprenticeship records, but the evidence is inconclusive, as they were not found in either set of records. One feature, which seems to be worthy of consideration, is the whereabouts of lodgers. Young men might have had to continue living with their masters or with family members, especially widows. Setting up home, marrying and taking apprentices, depended on the availability of houses and/or work premises. Sheffield had surprisingly few empty properties, only two empty smithies and one domestic property in Sheffield First Part and nine domestic properties in the Second Part.

One final consideration is whether large numbers of outsiders came as apprentices and whether they remained. An 'outsider' in this case has been taken to be someone from outside Sheffield Township, though he might well come from another part of Hallamshire. The scissorsmith community provides clear evidence that men did come and stay, though not in large numbers. It is interesting that craftsmen who were outsiders, often trained other outsiders. These characteristics of the Sheffield

manufacturing communities will be considered again, when other communities are investigated.

[1] Scurfield, G., 'Seventeenth Century Sheffield and its Environs', *Yorkshire Archaeological Journal*, 58 (1985) 147-171

[2] Hey, D., *The Fiery Blades of Hallamshire* (Leicester 1991) 64

[3] Leader, R.E., *History of the Company of Cutlers in Hallamshire, Vol.II* (Sheffield 1906) 104

[4] Adapted from the map in *Sheffield in Tudor and Stuart Times* (Sheffield 1985)

[5] Hey, D., *The Fiery Blades of Hallamshire* (Leicester 1991) 153

[6] Sheffield Archives, Arundel Castle Muniments, ACM S129.

[7] Leader, R.E., *History of the Company of Cutlers in Hallamshire, Vol.I* (Sheffield 1905) 44-45

[8] Hey, D., *The Fiery Blades of Hallamshire* (Leicester 1991) 120

Chapter 5
Attercliffe Township and Handsworth Parish

The theme of this chapter will be to examine an area that had a well-established metalworking community with strong family links. It is a geographically discrete area and is usually recorded accurately in the Cutlers' Company documents. This chapter will present a picture of the Township's involvement in the metalworking trades, its ability to train local boys and to attract outsiders. A secondary aim is to assess the completeness of the Hearth Tax returns by correlating the taxpayers with people mentioned in miscellaneous records of the Cutlers' Company, the Quarter Sessions, probate records and parish registers. The parish of Handsworth, to the south of Attercliffe, had family connections with Darnall, but only a small involvement in the metalworking trades in 1672. Data relating to Handsworth will therefore only be summarised.

The following topics will be considered:

- the masters and apprentices in each decade to 1672
- the origins of apprentices and any influx of 'outsiders'
- the estimated numbers of non-freemen

Introduction

Attercliffe Township lay to the east of Sheffield Township and consisted of three settlements - the large village of Attercliffe, the hamlet of Carbrook to the northeast and Darnall village to the south. There were also scattered houses at Oakes Green,

between Attercliffe and Sheffield and at nearby Washforth Bridge, a bridge over the river Don on the main road from Sheffield. The Township was bounded to the north by the river Don; by the parish of Tinsley in the east; Handsworth parish to the south and Sheffield's old manorial hunting park in the west. A main road ran east from Sheffield toward Rotherham and from this, a road went southwards through Attercliffe village and Darnall to Handsworth and beyond. The Township had common land at Attercliffe and Darnall, both with open fields. Probate inventories show that many of the metalworkers had some agricultural involvement.

Figure 5.1 Map of Attercliffe Township, from William Fairbank's map of Sheffield parish, 1796.

The valley of the River Don is wide and flat, with the land rising gradually to the south towards Darnall and Handsworth. From the 16th century at least, the river provided waterpower for corn mills as well as iron forges and grinding wheels. Brightside, northeast of Carbrook, had a corn mill and a grinding wheel on the same site, which were leased together.[1] Upstream and nearer Sheffield, Royds Mill (corn) and Royds Wheels (three cutlery wheels) were also leased together. The iron forges at Upper and Nether Forge were mentioned in Chapter Three as being important in the development of the metalworking trades in Sheffield. Upper Forge was on the south side of the River Don, while the larger Nether Forge was on the north side. A cutlers' grinding wheel was associated with Nether Forge and the Shrewsbury and Norfolk rentals show local people took out leases.[2] Established by the Earl of Shrewsbury in the mid-16th century, the forges took pig iron from Kimberworth and Wadsley, converting it into wrought iron. The Cutlers' Company Storehouse records for 1680 show that Attercliffe Forge was providing iron for the cutlers and scissorsmiths at the rate of 5cwt a week, rising to a ton a week in 1682.

The Hearth Tax returns for 1672

Analysis of the domestic and smithy hearths

number of entries	125	empty	4
number of hearths	251	new chimneys	3
average no. of hearths	2.1	demolished chimneys	1
no. of properties with smithies	41		
no. of smithies	50	poor, with or without certificates	23
%age of taxpayers with smithies	33	widows & other women	13

Table 5.1 Summary analysis of the numbers of hearths and smithies for Attercliffe Township.

Table 5.1 gives a summary of the numbers of properties, domestic hearths and smithy hearths. By using the apprenticeship records, which give the places of work for masters, the location of many of the houses has been established, assuming that the assessors went round the Township in a logical way. Almost half the properties in the Township had only one domestic hearth, but at the other end of the social scale, there were large properties with more than ten hearths. Sir John Bright had 17 hearths at Carbrook Hall; William Spencer, esquire at Attercliffe Hall and Mr Berrey of Attercliffe, both had 11 hearths. Surviving probate records for Attercliffe include one for William Spencer of Attercliffe Hall, who died in 1686.[3] The inventory lists more than twelve rooms, including a nursery and maid's room, plus rooms associated with dairying and brewing.

Figure 5.2 Carbrook Hall, 1819, by E Blore [4]

Figure 5.3 Attercliffe Hall interior, around 1910. [5]

Figure 5.4 Darnall Hall. [6]

Darnall Hall belonged to the Staniforths and in the 1661 inventory of John Staniforth, yeoman, the building had eight main rooms. As a yeoman, he left animals and crops, but he was also involved in the timber trade, leaving 50 bed ends, 76 bunches of latts, 48 chair backs and 700 boards. In 1672, another John Staniforth was taxed for seven hearths.

Richard Nicholson, who was described as a husbandman in 1661, also had a large house, with six hearths, as did two cutlers. John Fretwell had seven hearths and a smithy, while Stephen Carr had four hearths but no smithy.

The taxpayers

The 125 entries for the taxable properties do not reflect the actual number of taxpayers. Attercliffe returns demonstrate the need to assess the entries carefully if the correct number of taxpayers is to be revealed. For instance, one entry listed the brothers Robert and William Parkin together (so giving 126 people) but the following names appear twice:

James Newbould, (73,75)	two entries probably refer to father and son and so they are assumed to be two people
George Hibbard, (41,66)	an entry in Darnall and Attercliffe, but only one identified scissorsmith, however, apprentices were taken in Attercliffe and Darnall, therefore they are assumed to be two people
John Staniforth, (32, 21)	Darnall Hall and an entry for a certificated poor man, they are assumed to be two people since this was a common surname here
William Staniforth, (46,89)	a common surname, therefore they are assumed to be two people
William Spencer, esq.(2,83)	of Attercliffe Hall, but also taxed for an empty property, so he is assumed to be one man
William Dungworth,(80,98)	Constable and blacksmith, he is assumed to be one man

These last two examples reduce the number of taxpayers to 124. This number is further reduced by discounting Mr Chappel, Thomas Newbould of Sheffield and John Bayes, cutler, who were taxed for three empty properties and since none of them appears elsewhere in the Attercliffe Township, are assumed to be non-residents. Therefore, the actual number of taxpayers is 121 and by using the multiplier of 4.75 people per household, the population for Attercliffe Township is about 575.[7]

Attercliffe Township is a useful example of an area where core families existed for decades. Most of these families were represented in the earliest Cutlers' Company records and continued beyond 1814, when the Company's records become less detailed. Fourteen of the 121 surnames listed in the Hearth Tax are recorded more than once and in fact, forty-one people share these fourteen surnames.

Surname	**First names or title**				
Carr	*Elias*	*George*	*Stephen*		
Challoner	*George*	*Hugh*	*Thomas*		
Holland	*George*	*John*			
Marsh	*Thomas*	Widow			
Newbold (1)	*James*	*James*	*John*	Thomas	
Nicholson	*Joseph*	*Richard*	Widow		
Nowburne	*Richard*	*William*			
Parkin	*George*	*Robert*	*William*		
Rhoades	Widow	William			
Smith	Godfrey	James	*Nicholas*	Widow	*William*
Stacey	John	Thomas			
Staniforth (2)	John	John	Samuel	Widow	Widow
	William	William			
Swift	Edward	Nicholas			

Table 5.2 Multiple entries for surnames in the 1672 Hearth Tax return; the people may or may not be closely related. Names in italic were in the cutlery trades. (1) various spellings - see also Nowburne. (2) Too many Staniforths of the same name to make identification reliable, but some were undoubtedly in the cutlery trades.

About half the taxpayers have been identified, including more than fifty Cutlers' Company craftsmen. Thirty-five cutlers formed the largest metalworking group, followed by sixteen scissorsmiths. A shearsmith and a sicklesmith have also been identified but no filesmiths, awlbladesmiths or scythesmiths. One other metalworker with a smithy hearth was Constable William Dungworth, a blacksmith. The background and occupations of many people in Attercliffe have also been found in the Cutlers' Company records of apprentices. Details in the probate inventories for Attercliffe and the work of David Hey has identified more people.[8] Table 5.3 gives a summary of the occupations of the non-metalworkers. The service trades and

craftsmen were well represented in Attercliffe village, while those involved in agriculture were located in both Attercliffe and Darnall, which had open fields and common land.

Occupation	Totals	Hearth Tax entry number with identified locations	
bellows maker	1	122	Attercliffe
blacksmith	1	98	Attercliffe
carpenter	1	117	Washforth bridge
dissenting clergyman	1	106	Attercliffe
gardener	1	60	Attercliffe
gentlemen	3	1; 2;	Carbrook Hall; Attercliffe Hall
		69	Attercliffe
hardwareman	1	25	Darnall
husbandmen	5	4, 71, 115	Attercliffe
		42, 56	Darnall
joiner/carpenter	1	110	Attercliffe
linen webster	1	88	Attercliffe
maltster/yeoman	1	68	Attercliffe
merchant	1	90	Attercliffe
pinner	1	100	Attercliffe
sheather	1	62	Attercliffe
tailors	3	61; 82; 111	Attercliffe
yeomen	2	44	Darnall
		107	Attercliffe
total	**25**		

Table 5.3 Identified taxpayers not involved in the cutlery trades.

The identification of specific locations

Probably out of courtesy, the assessors began with Carbrook Hall and then Attercliffe Hall, with four or five houses round it. They returned to Carbrook, which also had four or five houses nearby, before going on to Darnall and finally listing the rest of Attercliffe.

smithies		scissorsmiths	
women		others	
cutlers		shear/sicklesmiths	

Table 5.4 The colours used in the distribution graph, Figure 5.5.

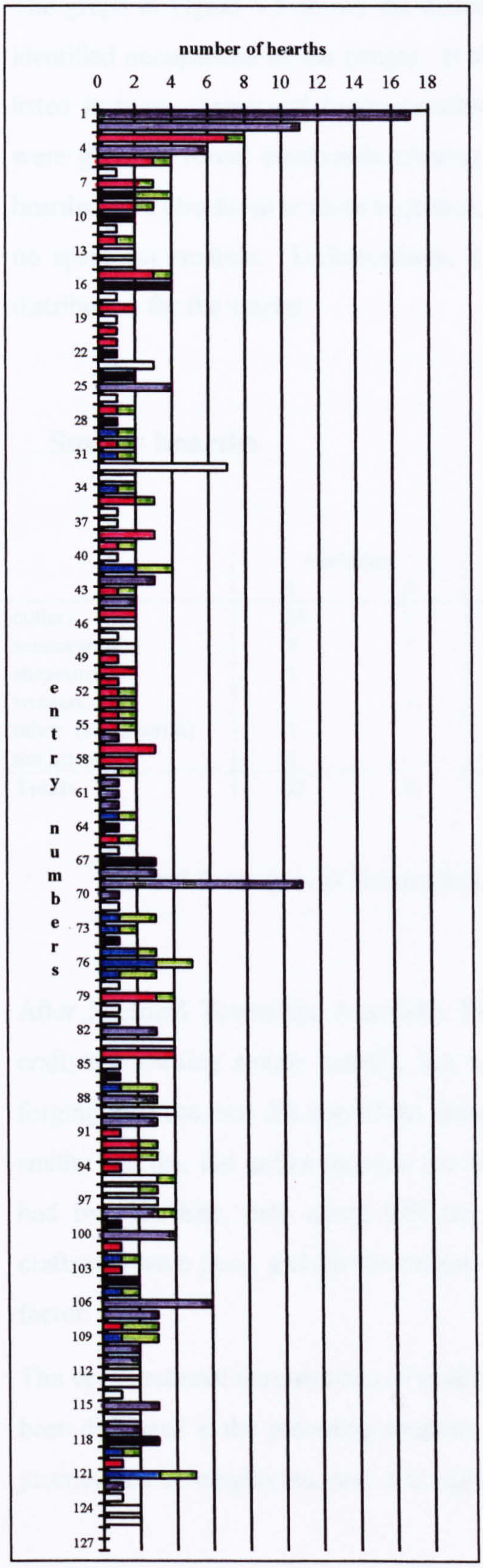


Figure 5.5 The distribution of hearths and smithies in the Attercliffe Township.

The graph in Figure 5.5 shows the distribution of the hearths and smithies with the identified occupations of the people. It shows that the properties with smithies were listed in twos, threes and fours, possibly suggesting that the houses with smithies were grouped round courtyards, sharing common walls. The men without smithy hearths were also listed in close sequence, perhaps in groups of poorer houses or with no space for smithies. Unfortunately, it is not possible to give a definitive spatial distribution for the entries.

Smithy hearths

	smithies		craftsmen		poor	
	1	2	with	without	with	without
cutlers	20	1	21	14	-	5
scissorsmiths	9	7	16	-	2	-
shearsmiths	1	-	1	1	-	-
women	-	1		-	-	3
other (blacksmith)	1	-	1	-	-	-
not known	1	-		-	-	-
Totals	**32**	**9**	**39**	**12**	**2**	**8**

Table 5.5 Analysis of the smithies and owners in the Attercliffe Township

After Sheffield Township, Attercliffe Township had the highest number of cutlery craftsmen owning smithy hearths, but a third of the cutlers did not have personal forging facilities, nor did one of the shearsmiths. All the identified scissorsmiths had smithy hearths, but unlike those in the Sheffield Township where almost all of them had two smithies, only about half the Attercliffe scissorsmiths had two. Seven craftsmen were poor, and for the cutlers, the lack of a smithy hearth may have been a factor.

The organisational consequence of craftsmen not having their own smithy hearths has been discussed in the preceding chapters. Some craftsmen were probably working as journeymen or employees, and it is significant that practically all the smithy owners

were freemen. Men without smithies might have specialised in grinding or assembling forged blades and handles. If this were so, then specialisation and fragmentation of the processes were common at this date. Other alternatives are that the men without smithy hearths were old, had ceased to work or were working in a 'partnership'. For instance, shear- and sicklesmiths William and Robert Bamforth (both freedoms in 1639) were listed consecutively; Robert having the smaller house but with the smithy hearth. Brothers William (F1669) and Robert Parkin (F1672) were young cutlers who lived in the same house and probably shared the smithy. Widow Smith, whose husband might have been a scissorsmith, had two 'spare' hearths, which could have been rented by men without their own smithy hearths. This demonstrates that the number of smithy hearths does not accurately reflect the number of cutlery craftsmen.

Summary

Attercliffe was the largest of the three communities, with approximately seventy properties, giving a population of about 330. It had most of the identified tradesmen as well as the cutlers and scissorsmiths. Darnall had about thirty to forty properties, including Darnall Hall, while Carbrook had only four identified houses around Carbrook Hall. The above tables and figures show the Township was closely involved in the cutlery trades and all but three of the smithy owners were in these trades. The metalworkers had access to water-powered grinding facilities at several sites on the River Don to the north and were close to a supply of iron. Agriculture was important and probate inventories show that men who were metalworkers also had a few animals and some crops.

Cutlery craftsmen of Attercliffe Township, 1624-1672

The evidence for the communities of cutlers, etc. comes from the Cutlers' Company records of apprenticeships, freedoms and mark registers, but it is acknowledged that the data is incomplete and that identification of individuals is sometimes subjective. Because of the nature of the data, it is necessary to restrict much of the discussion to the freemen. The identified cutlery craftsmen will be listed in table form below, showing their working lives as masters of apprentices. These years are judged to be from the end of their apprenticeship or freedom date to the departure of their last apprentice, or other evidence signifying they had ceased working, such as the 'turnover' of an apprentice to another master. All this evidence is imprecise; for instance, many men with no apprenticeship details might have been working for some years before their freedom date and some masters never took apprentices. The factors make it impossible to give more than a general idea of men's working lives. However, it is felt that the conclusions give a sufficiently valid presentation of the three communities, which had distinctive features of metalworking activities.

Three groups of people will be considered separately. First, the freemen cutlers, scissorsmiths and shear/sicklesmiths were the easiest group to identify because they appear in the Cutlers' Company records when they became freemen and when they indentured apprentices. The second group is the apprentices. Their indentures usually give background details and the length of their training, from which we can estimate the influx of outsiders and whether any remained in the Township at the end of their apprenticeship. The apprenticeships of local boys are assessed in terms of whether boys stayed in the Township or preferred training elsewhere. It is not possible to give precise numbers of apprentices, since sons of freemen did not have to be formally registered. Consequently, some men were recorded only when they became freemen, without any indication of when or where they were trained.

The most difficult to identify and assess are the non-freemen – apprentices who, having completed their apprenticeships, chose not to become freemen but to work as

journeymen for their master or other freemen, perhaps specialising in one aspect of production. Because they could not take apprentices, they would not appear again in the main records of the Cutlers' Company unless they apprenticed their sons to the cutlery trades. Therefore, one can only give a rough estimate of the size of this group of craftsmen, and similarly, there is no easy way of knowing their whereabouts or estimating the length of their working lives.

The reconstruction of the cutlery communities

Table 5.6 list identified craftsmen and smithy owners, who were taxed in 1672, including the widow who owned two smithies and Constable William Dungworth, who was a blacksmith. The decades of activity for each master craftsman are shown as shaded areas, with the following symbols :

- ● indicating the decade with one or more apprentices
- ■ the decade with a freedom date for an apprentice without apprenticeship details
- ❍ the decades after the master's freedom date, with no recorded apprentices.

The age range of the communities is clearly seen from the freedom dates, with some elderly men, who from the entries in the returns, seem to have lived close together. It is unfortunate we have no way of knowing the actual special distribution of these craftsmen, because the men working in the same craft are sometimes listed sequentially. The most remarkable feature of these communities is that the smithy hearths were owned by freemen. Freemen without smithy hearths, some of whom were poor, may have rented time at smithies or specialised in grinding or assembling, as would the two identified non-freemen.

sequence in Hearth Tax	Surname	First name	free dom	sm	craft	1630	1640	1650	1660	to 1672	apps
Carbrook											
9	Marsh	Thomas	1668	1	c				●	○	1
12	Sparke	John	1671	1	c					○	0
Darnall											
15	Hunt	Thomas	1645	1	c		○	●	●●	●	4
18	Challoner	George	1655	-	c			○	○	○	0
20	Challinor	Hugh jun	1660	-	c				○	○	0
27	Horrabin	Thomas	1667	1	c				●	○	1
29	Beldon	Jos	1666	1	sc				○	●	1
30	Parkin	George	1652	1	c			○	○	○	0
31	Kent	Jos	1655	1	sc			○	○	○	0
34	Smith	Nich.	1656	1	sc			●	○	○	1
35	Newbourne	Richard	1636	1	c	●	○	○	○	○	1
38	Bamforth	Wm	1639	-	sh	●	●	○	○	○	2
39	Bamforth	Robt	1639	1	sh	○	●	●	●	○	3
41	Hibberd	Geo	1653	2	sc			●●	●●	●	5
43	Bullas	Geo	1637	1	c	○	●	○	●	○	2
45	Newbourne	Wm	1641	-	c		●	○	○	○	1
49	Kirkson	Thomas	1645	-	c		○	○	○	○	0
50	Ramsker	John	1630	-	c	○	○	○	○	○	0
51	Penniston	Wm	-		c						-
53	Barber	John	1645	1	c		●	○	○	○	1
54	Holland	John	1668	1	c				○	○	0
55	Holland	George	1644	1	c		○	●●	●	○	3
57	Stacey	John	a1660	-	c				-	-	-
Attercliffe											
3	Fretwell	John	1669	1	c					●	1
5	Carr	George	1666	1	c				○	●	1
7	Leighton	Richard	-	1	c				●	●	2
8	Smith	Widow	-	2	-					-	-
21	Staniforth	John	1660	-	c				●●	●	3
52	Beighton	Jos.	1662	1	c				○	○	0
59	Parkin	William	1669	1	c				○	○	0
59	Parkin	Robert	1672	-	c					○	0
63	Newbound	John	1668	1	sc				○	○	0
65	Knott	William	1664	1	c				○	○	0
72	Levick	Wm	1649	2	sc		○	○	●	○	1
73	Newbold	James	1663	1	sc				●●	●■	4
75	Newbould	James	1641	1	sc		○	○	○	○	0
76	Greene	John	1662	2	sc				●	○	1
77	Skargell	Thos	1663	2	sc				●	○	1
79	Bate	John	1654	1	c			●●	●●	○	4
84	Carr	Stephen	1647	-	c			●	●●●	●	5
87	Chalnor	Thos	1628	2	sc	●	●	○	●	○	4
91	Selioke	William	1635	-	c	○	●	○	○	○	1
92	Bullas	John	1656	1	c			○	●●	○	2
93	Carr	Elias	1661	1	c				●●●	○	3
95	Shawe	Robert	1635	1	c	○	●●	○	○	○	2
98	Dungworth	William	-	1	bl	-	-	-	-	-	-
101	Brewell	Geo	1632	-	c	○	●●	○	●	○	3
102	Swindon	Geo	1668	1	sc					●	1
103	Walton	Jos.	1650	-	c			○	●	○	1
105	Twigg	John	1652	1	sc			●	●	○	2
108	Toplesse	Jos.	1669	2	c				○	●	1
109	Bird	Thos	1664	2	sc				●	○	1
119	Beighton	Robt	1641	1	sc		●	○	○	○	1
120	Chadwick	Samuell	1655	1	c			●	●	○	2
121	Smith	Wm	1646	2	sc		●	●●■	●	○	5

Table 5.6 The identified craftsmen and smithy owners in the Hearth Tax return,1672. sm = smithy hearths; apps. = apprentices taken; c= cutler; sc= scissorsmith; sh=shearsmith; bl= blacksmith; a= apprenticeship date

Scissorsmith masters in Attercliffe and Darnall

Evidence from apprenticeship records suggests that in the early 17th century, the scissorsmiths were concentrated in Attercliffe village and only became established in Darnall in the 1650s. The majority of the sixteen identified scissorsmiths lived in Attercliffe and all had one or two smithies. Unlike Sheffield Township scissorsmiths who all had more than one smithy hearth, just over half of those in Attercliffe Township had only one. This perhaps confirms the view that no manufacturing reason necessitated two hearths, but possibly indicates that most scissorsmiths were financially able to use and maintain more than one. It is significant that all of the smithy owners were freemen, the eldest being Thomas Chalnor who, assuming he was twenty-one years old when he became a freeman in 1628, would have been in his late-sixties.

The apprenticeship records provide details to suggest some under-recording in the Hearth Tax returns. There is evidence for several scissorsmiths who do not appear in the returns - John Urwin, John Bird, Thomas Beane and Joshua Smyth– and parish registers suggest all were still alive in 1672. They may have escaped taxation by being too poor or living with another taxpayer. John Urwin (F1665) was a signatory of the scissorsmith covenants in 1680. He was the son a chapman in Attercliffe, apprenticed to Richard Sims (located in Sheffield First Part). Neither John nor his father William appears in the Hearth Tax. Because John went to Sheffield for training, he did not have links with any of the Attercliffe masters and may have remained somewhere in Sheffield.

John Bird became a freeman in 1654 and might have been alive in 1672. His brother Thomas was in the Tax return so perhaps the two were living together. Thomas Beane of Carbrook (F1666) appeared in a case at the Quarter Sessions in 1671, and no explanation can be offered for his omission. Finally, Joshua Smyth (F1670) was apprenticed to William Smith in 1662, when his father Charles was dead. In 1670, Joshua took an apprentice and appeared in the Hearth Tax return for that year, in the entry preceding William Smith[9]. This might have been his master, William Smith the

elder, whose widow was taxed for two smithy hearths in 1672. Since Joshua was not in the 1672 Hearth Tax return, perhaps he was lodging with Widow Smith.

	Surname	First name	freedom or mark	from 1614	1620	1630	1640	1650	1660	to 1672
1	Smith	Nicholas	M1625	○	●■■	○				
2	Smithe	Richard	M1624	○	■	■■				
3	Smith	John	M1625	○	●■	●●	○			
4	Smith	Charles	1626		●	●●	●●	○		
5	Smith	Chas jun	1626		○	●	●	●	○	■
6	Swinden	Lawrence	1629		○	○	●	○		
7	Topcliffe	Robert	1631			●				
8	Beighton	Thomas	1632			●●	●	○		
9	Smith	Joseph	1633			●	○			
10	Beete	John	1633			●●	○			
11	Chalnor	Phillipp	1635			●	○	○	■	
12	Smith	Wm	1636			●	○			
13	Beane	Thomas	1637			●	●	○	●	○
14	Shemeld	Francis	1639			○	○	●●■	●	
15	Storer	Francis	1641				●			
16	Bird	John	1654					●		
17	Rudd	Robert	1655					●	●	
18	Urwin	John	1665						●	○
19	Smyth	Joshua	1670							●

Table 5.6 Scissorsmith masters of Attercliffe Township, who do not appear in the Hearth Tax returns, 1672

For decades, the Township scissorsmiths worked as a closely-knit community, most being related by remarkably close family and/or training links. In the 1620s and 1630s the Smiths seem to have been the dominant scissorsmith family. In the 1620s, Nicholas Smith trained his son William (Hearth Tax entry 121), who then went on to train Joshua, the son of Charles. John and Joseph were brothers; John training one of the two Charles, who were probably cousins. Unfortunately, no details for Richard or the later Nicholas survive. The Hearth Tax return has a Widow Smith with two smithy hearths and it is likely that she was the widow of one of these earlier scissorsmiths.

The Challoners (various spellings) were another family involved in the scissor trade. The earliest recorded craftsman was Thomas, who was apprenticed to Nicholas Smith. The two Philips were father and son. Another scissorsmith family was the

Newbounds. James Newbound, listed at entry number 75, was probably only a short distance from his two sons, James (73) and John (63). These family names - the Smiths, Newboulds and Challoners - are found throughout the 17th century and beyond.

The evidence suggests a small community of scissorsmith masters training about fifteen apprentices per decade. A few outsiders came to live in Attercliffe Township. James Newbould came from Brightside to his master, John Beete, and Joseph Kent came from the village of Aughton, east of Sheffield to Francis Shemeld. Francis Storer from Tutbury, travelled the furthest to be trained by William Newbould in Handsworth, before settling in Attercliffe. Robert Rudd originated in the adjacent parish of Handsworth to be the only apprentice of Robert Beighton. Finally, Thomas Beane, from Handsworth, was trained in Attercliffe but settled in Carbrook, being the only scissorsmith to do so. Three men seem to have originated in Sheffield - George Hibberd, Lawrence Swinden and John Twigg. George Hibberd was trained by Lawrence Swinden, but Thomas Skargell and John Twigg had no apparent links with Attercliffe. This evidence suggests that a few 'outsiders' were able to settle in the Attercliffe Township as scissorsmith masters. In the 1650s, four master craftsmen, two of whom were outsiders, established scissormaking in Darnall.

The manufacturing output of Township's scissorsmiths might have been quite remarkable. The Cutlers' Company Storehouse records were discussed in Chapter Three with particular reference to Edward Brittlebank, a Sheffield scissorsmith. Based on the goods he took to the Storehouse, his average weekly output was 13½ dozen pairs of scissors (162 pairs). From this estimate, it is suggested that the twenty masters in Attercliffe Township could have produced 3,240 pairs of scissors weekly in 1672. By working forty-six weeks a year (taking into account the periods of enforced rest from manufacturing), these men could have made almost 150,000 pairs of scissors annually. This astonishing figure is based on many assumptions - that the scissors were similar to those made by Edward Brittlebank; that the men worked the number of weeks suggested above; and that the masters were not sub-contracting work. This is a quite startling estimate for one small manufacturing community.

Such an output requires a ready market for the scissors and a steady supply of large amounts of raw materials. Attercliffe masters were fortunate in being close to the finery forge at the Upper and Nether Wheel on the River Don. In the early 1680s, Attercliffe forge is recorded as supplying the Storehouse with 5cwt of iron a week increasing to one ton a week in 1682. It is likely the local craftsmen could have bought their iron directly from the forge.

Summary

As for Sheffield, the data reveals a small community of craftsmen related by family and/or connected by training. The majority of the craftsmen were in Attercliffe village, with the trade becoming established in Darnall in the 1650s. The evidence from the apprenticeship records shows an increasing number of masters from the mid-17th century. Sixteen were listed in the 1672 Hearth Tax return, all with one or two smithy hearths, but the evidence from the Cutlers' Company data suggests that five freemen were 'missing'. However, it is likely that at least three of them might have been living with other taxpayers.

Master shearsmiths of Attercliffe Township

In the records of the Cutlers' Company, the words 'shears' and 'sickles' were often interchangeable. Only two men have been identified as shearsmiths in the 1672 return. It is likely that brothers Robert and William Bamforth of Darnall were next-door neighbours and worked together, since only Robert had a smithy hearth. Their grandfather, John Bamforth (F1628), was one of a small group of Darnall shearsmiths working at the beginning of the Cutlers' Company era.

The early shearsmiths also included George Torr, Richard Stanor, and Nicholas Staniforth, most of whom were linked by family and training, but there are no background details for any of them. George Torr trained Richard Beighton while Richard Stanor or Strawe trained William Challoner and John Henfrey. John

Bamforth headed three generations of shearsmiths and Nicholas Staniforth was probably related to others with this common local surname. He trained his son, Nicholas junior, who took out his freedom in 1635. Another early shearsmith, Hugh Smith, only appeared in the records when he took an apprentice in the 1630s. Most men were described as shearsmiths, except the two early John Bamforths and Richard Beighton, who were listed as sicklesmiths.

The data suggests a very small shearsmith community that was not expanding. The masters took few apprentices, training only ten freemen, three of whom were from outside Hallamshire, and no new freemen appeared in the 1660s or early 1670s. The three 'outsiders' do not appear again in the Cutlers' Company records, so perhaps they returned home with their skills.

Attercliffe Township may have had as many as nine master shearsmiths in the 1630s, but by the 1670s only two men were listed in the Hearth Tax return, plus Edmund Corker who was in the Township in 1671. Corker appeared in the Quarter Session records bringing a case against George Ludlam of Darnall, who was described variously as a hardwareman, ironmonger and cutler. Ludlam was accused of 'cheating and cozening' Corker with John Swinden and Thomas Beane, a Carbrook scissorsmith. Ludlam was further accused of tricking Corker into signing a bond.[10]

The master cutlers of Attercliffe Township

Cutlers formed the largest group of metalworkers in the Township. Surnames suggest strong family involvement and the cutler families of the Bullases, the Carrs and the Parkins all provided a core of masters maintaining the metalworking tradition. The Challoners and Newbourns were as evident in knifemaking as in scissormaking. Outsiders represented only a small section of the community, only six being identified.

	Surname	First name	freedom	from 1614	1620	1630	1640	1650	1660	to 1672
Carbrook										
1	Marshe	William	1635			●				
2	Sparke	John	1650				●	●		
Darnall										
1	Newboune	Richard	M1615	●						
2	Savage	Edward	M1615	○	●	●				
3	Walker	William	M1615	○	●	●■				
4	Swift	Edmund	M1615	○	○	●●				
5	Bullas	John	M1615	○	●	●●	●●			
6	Jeffcock	Edmund	1626		●					
7	Rose	Richard	1626		○	●				
8	Staniland	Peter	1626		○	●	●			
9	Bullas	Geo	1628		○	●				
10	Rossington	Clement	1632			●●				
11	Swifte	William	1632			●				
12	Chalnor	Hugh	1633			●				
13	Lemman	William	1639			○	●			
14	Newbourne	John	1640				●			
15	Marshall	Henry	1644				●			
16	Carr	George	1648				●	●		
17	Bullas	John	1660						●●	●
Attercliffe										
1	Osgathorpe	Roger	M1614	○	●					
2	Carr	Phillipp	M1614	○	●	●				
3	Brewell	George	M1614	○	●	●				
4	Warter	William	M1614	○	●●●	●●●				
5	Carr	Robert	M1614	○	●●■	●●	■			
6	Shaw	Nicholas	M1614	●	○	■	■			
7	Carr	Francis	M1614	○	○	■	○	■		
8	Bullus	Hugh	M1615	○	●	●				
9	Rodes	Richard	M1615	○	●●	●■				
10	Turner	John	M1615	○	○	●■				
11	Jessopp	Raph	M1615	○	○	○	●			
12	Bate	Thomas	M1615	○	●	○	○	●		
13	Robinson	William	1626		●	●				
14	Burgon	Richard	1626		○	●				
15	Parkin	Nicholas	1626		○	○	■			
16	Robinson	Robert	1626		●	●	○	●	●	
17	Webster	Richard	1627		●	●	●	●	●	
18	Hobson	William	1631			●●	●●			
19	Parkin	John	1632			●●	●			
21	Parkin	George	1633			○	○	○	●●	
24	Wright	Chris	1637			●				
25	Webster	Edward	1637			●	●			
26	Crawshaw	William	1638			●	●	○	●	
27	Carr	William	1638			○	●	●●	●	
28	Warter	William	1639			●	●			
29	Sturteuant	Joseph	1639			○	○	●●		
30	Sorsbie	Lawrence	1640				●			
31	Twigg	Thomas	1640				○	●		
32	Bullus	Francis	1641				●			
33	Carr	Robert jun	1641				●●			
34	Holland	George	1644				●			
35	Wilkinson	Robert	1644				●			
36	Riche	Richard	1646				●	●		
39	Carr	Richard	1652					●		
43	Knott	George	1656					○	○	●

Table 5.8 Identified cutler masters in Attercliffe Township and who do not appear in the Hearth Tax returns of 1672. M = mark date

Some cutlers lived for several decades after their freedom, which is assumed to be at the age of twenty-one. George Brewell, who took a mark in 1632, was taxed in 1672 and died in 1682. George Parkin of the same era, died in April 1672, possibly missing taxation in the previous month by being cared for in another house. William Carr became a freeman in 1638 and died in May 1673. He should have been in the Hearth Tax returns, unless he too was living with one of the other Carrs.

The village of Attercliffe had the largest number of cutlers. In the early decades, the men are known only from their freedom date or mark registration, and represent those who were already working when the Cutlers' Company was founded. The largest number of masters and apprenticeships was recorded in the 1640s, but there is little evidence for expansion over the following decades. Two of the early masters in the 1620s and 1630s stand out as taking several apprentices at the same time. This was against the byelaws, which stated that, except for their own sons, only one boy was to be taken until an apprentice was in his final year. William Warter was Master Cutler in 1626 and Robert Carr was Assistant, and both took more apprentices than other masters. Interestingly, none of their apprentices was local, none was from a cutlery trades background and six of the boys' fathers were dead at the time of their apprenticeship.

Carbrook was a hamlet with four or five houses around Carbrook Hall, with a small community of craftsmen. John Sparke and William Marsh died shortly before 1672, prompting their sons to take out their freedoms in 1669 and 1671, who then probably inherited the houses and smithies, for which they were taxed. Darnall's Tax return has thirteen identified cutlers, with seventeen more during the previous decades. The number of masters in each decade seems to have been static, but the number of apprenticeships fell. The scissorsmiths who became established Darnall in the 1650s, also took very few apprentices

The expansion and contraction of the trades

In Tables 5.6 to 5.8, identified craftsmen are listed in chronological order of their freedoms and grouped according to their localities. From the numbers of masters working in each decade, communities are shown to be expanding or contracting, though it is acknowledged that since the data is based entirely on the apprenticeship records, these numbers are likely to be the minimum. By knowing the masters' backgrounds, it has been possible to show if any expansion was the result of 'outsiders' settling in the Township.

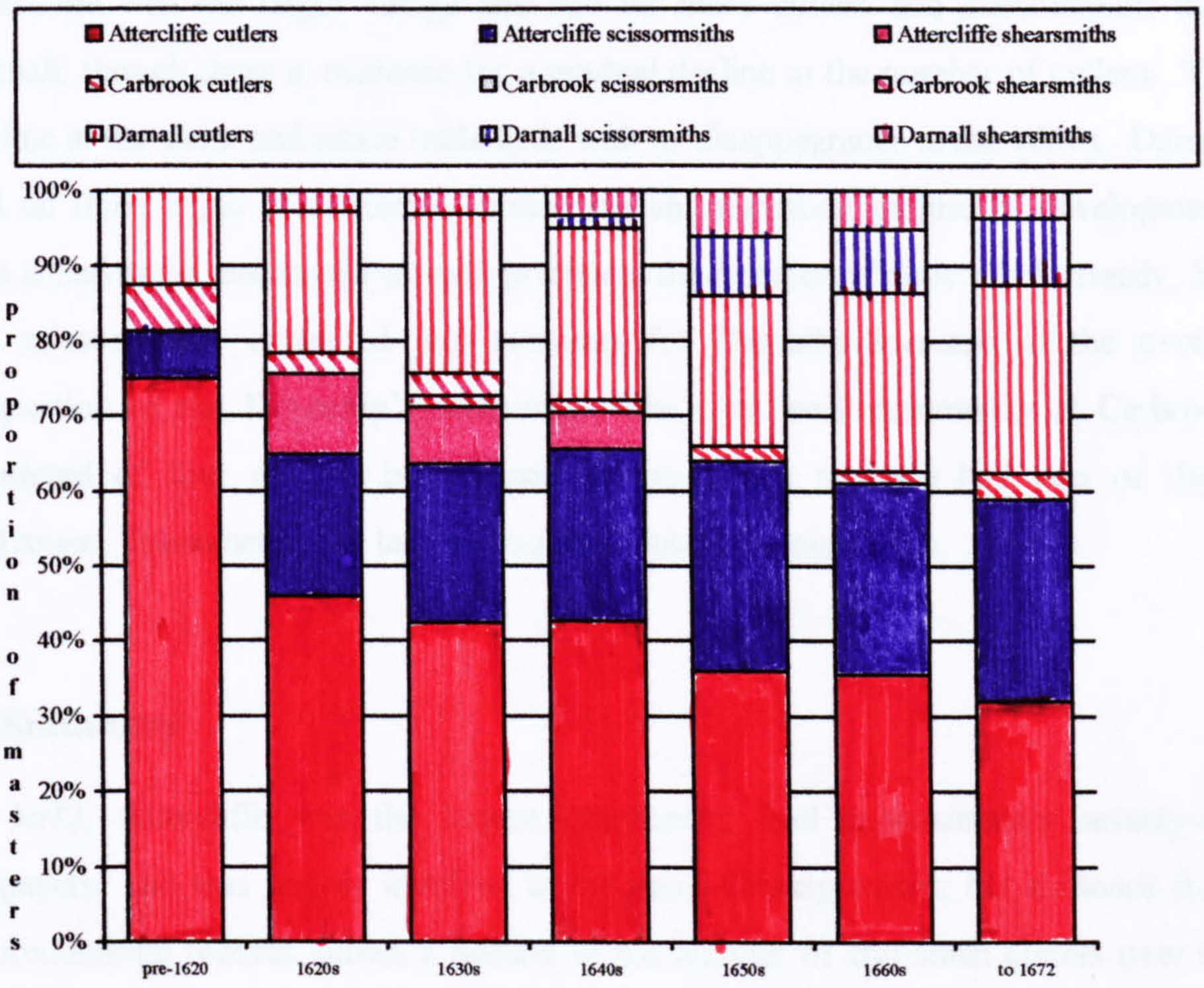


Figure 5.6 The proportion of master craftsmen in the three settlements in the Attercliffe Township, 1624-1679, based on apprenticeship details.

The chart in Figure 5.6 shows the relative proportions of the three craft groupings - cutlers, scissorsmiths and shearsmiths in Attercliffe, Darnall and Carbrook. At the beginning of the period, the Attercliffe cutlers dominated the scene with over 70% of

all the recorded masters, but this proportion had fallen to just over 30% by the 1670s. Darnall was the area of expansion in this period, while Carbrook never had a significant number of masters. Darnall's proportion of master cutlers increased from 12% to 25%, while its scissorsmith community increased from about 2% in the 1640s to about 10% in the 1670s. There seems to be little evidence to support an argument for expansion being due to 'outsiders' settling in the community. The proportion of outsider masters in any of the communities was small, except perhaps for the Darnall scissorsmiths, where two of the four men listed in the Hearth Tax, were outsiders.

Attercliffe was the larger village and had far more cutlers and scissorsmiths than Darnall, though there is evidence for a gradual decline in the number of cutlers. The decline in the shear and sickle trade ends with its disappearance in the 1650s. Darnall had all three types of craftsmen, presenting an interesting picture of development. The shearsmiths maintained a small presence, the number of cutlers held steady, but the scissor trade expanded and accounts for Darnall's increase in the overall proportion of the Township's craftsmen. The very small community at Carbrook consisted of four or five houses and always seems to have had two or three craftsmen. Presumably, the lack of housing limited any expansion.

Summary

In 1672, Attercliffe was the largest community, had approximately seventy-six taxpayers, and was heavily involved in the metalworking trades, but evidence from apprenticeship records shows a decline in the number of craftsmen cutlers over the decades from the 1620s.

Thirteen cutlers, four scissorsmiths and two shearsmiths have been identified in the Hearth Tax returns for Darnall. Although it was about half the size of Attercliffe, having approximately forty-four houses, the village saw an expansion of the cutlery community in the middle decades of the century. Increasing numbers of craftsmen, especially scissorsmiths, became established in the village in the 1650s. It is not known whether this expansion resulted in new housing.

Carbrook was a small hamlet of about four or five houses, having several shearsmiths and cutlers over the decades, but only two cutlers were identified in the 1672 returns. The size of the cutlery-making community appears to have been static, but with a change from making shears to making knives

The Apprentices

The training of boys was the key to the future of the cutlery trades. Craft guilds expanded their trades by increasing the number of craftsmen. However, the guilds, including the Cutlers' Company, existed partly to control excessive increases in the numbers of apprentices, so cutlery masters were limited to one apprentice (plus their sons) until the boy's final year, when another could be taken. Tables 5.6 to 5.8 show the minimum number of apprentices registered to each master. Although some men had no registered apprentices, some had several and a few men were probably breaking the rules of the Company. The master craftsmen also had to accommodate the Overseers of the Poor in the placement of parish apprentices, which led to conflicts of interest between the Cutlers' Company and the Overseers.

This section will concentrate on the apprentices trained in Attercliffe Township, where they originated and where they went on completion of their training. It is important to differentiate between the boys who originated in Attercliffe and those from elsewhere, especially in the later careers of these 'outsiders'.

In this analysis, the numbers refer to 'apprenticeships' rather than 'apprentices'. Because some boys had more than one master, they appear in the records twice or three times. These 'duplicates' have been included here to give a better indication of the number of masters operating at any one time. It has been explained earlier that some freemen have no details about their apprenticeship date, therefore 'possible' apprenticeship dates have been calculated by subtracting a notional seven years from the freedom date. It is acknowledged that this is a very rough estimate since apprenticeships were often longer and some men waited many years before they took

out their freedom. Similarly, by adding the notional seven years of training to the apprenticeship date, one arrives at the 'possible' freedom date, which indicates the time when a man was able to enter the workforce. This is necessary when the boy did not become a freeman.

Over a period of sixty-five years from 1614, there is evidence for 253 apprenticeships in Attercliffe Township, both local boys and 'outsiders'. The under-recording of the apprentices who were sons of freemen and who chose not to become freemen cannot be estimated. Of the 148 freedoms recorded, thirty-eight have no apprenticeship details, which mean we cannot know when these men were trained. This has been partially solved by estimating the possible date of apprenticeship as explained above.

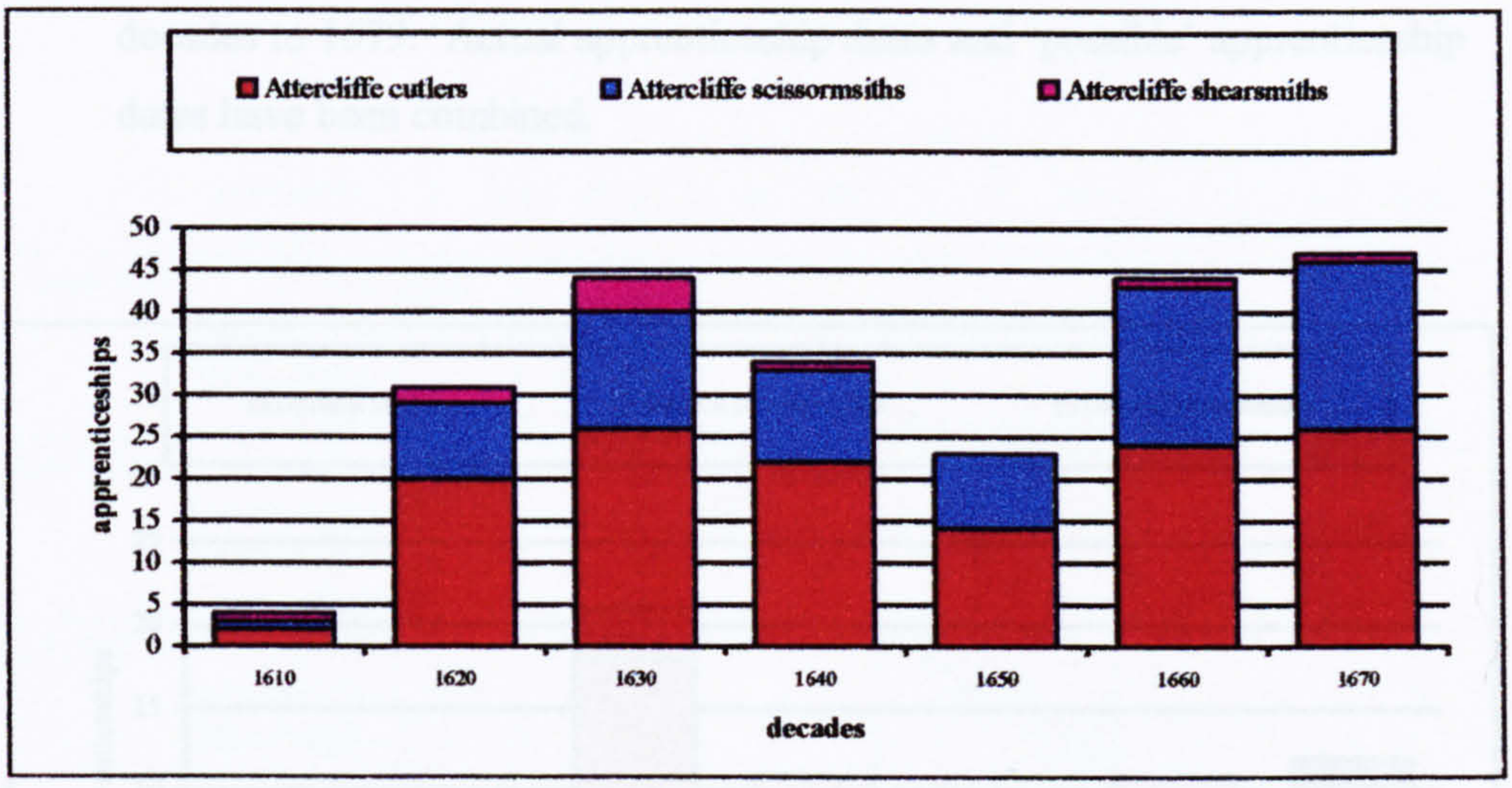


Figure 5.7 Numbers of apprenticeships registered to Attercliffe masters in the decades to 1679. Actual apprenticeship dates and 'possible' apprenticeship dates have been combined.

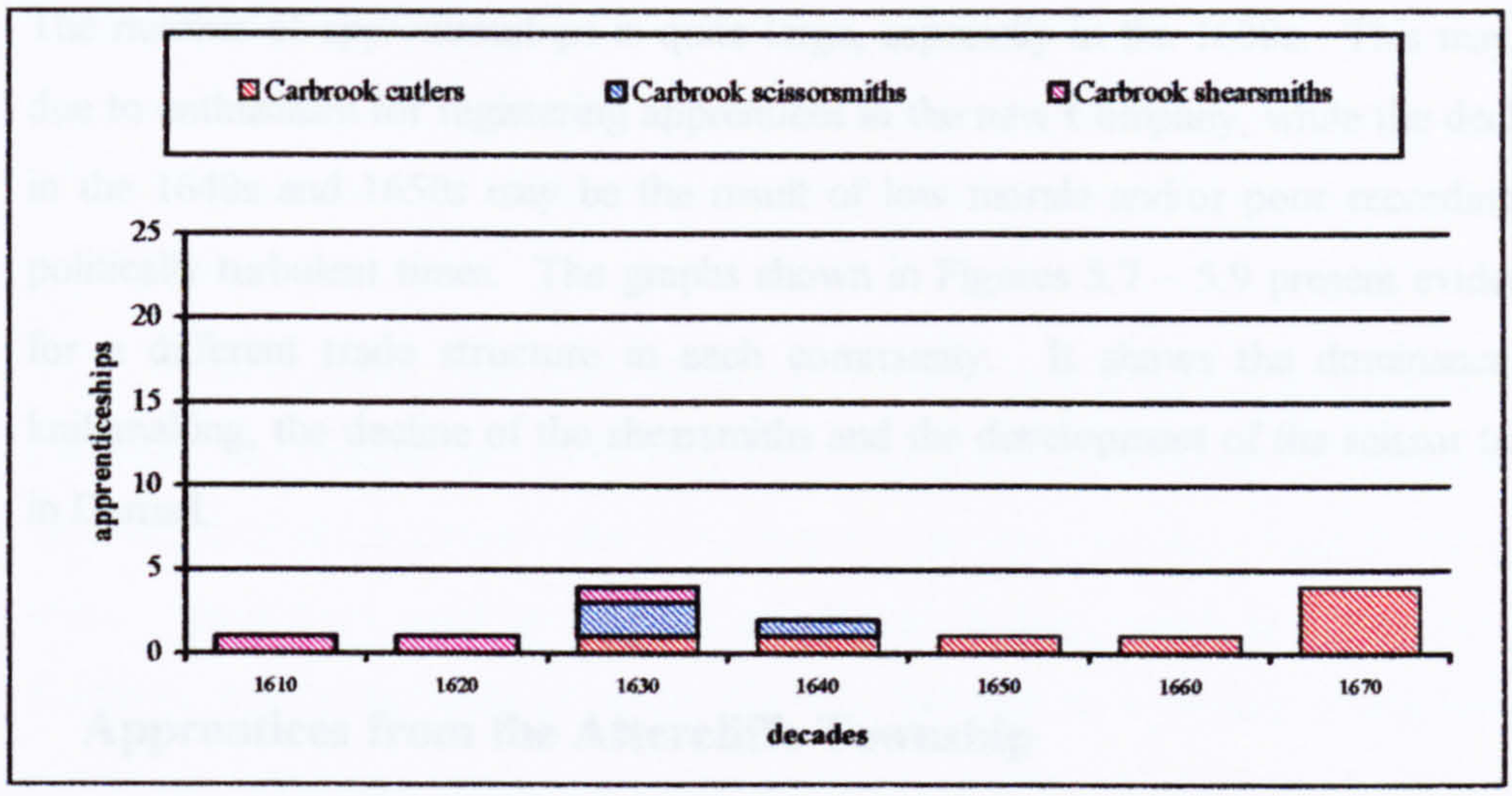


Figure 5.8 Numbers of apprenticeships registered to Carbrook masters in the decades to 1679. Actual apprenticeship dates and 'possible' apprenticeship dates have been combined.

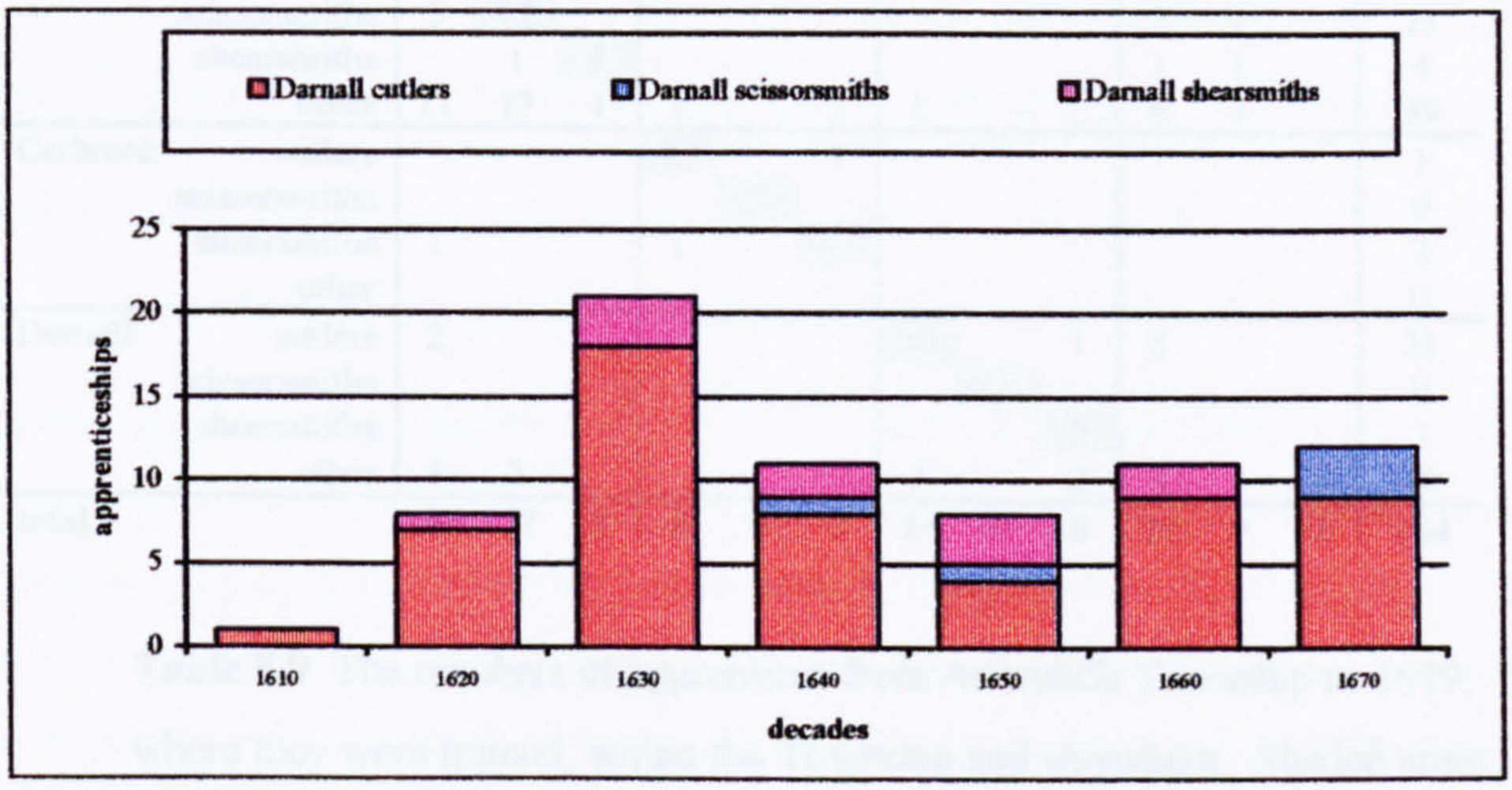


Figure 5.9 Numbers of apprenticeships registered to Darnall masters in the decades to 1679. Actual apprenticeship dates and 'possible' apprenticeship dates have been combined.

The number of apprenticeships is quite large, especially in the 1630s. This may be due to enthusiasm for registering apprentices in the new Company, while the decline in the 1640s and 1650s may be the result of low morale and/or poor recording in politically turbulent times. The graphs shown in Figures 5.7 – 5.9 present evidence for a different trade structure in each community. It shows the dominance of knifemaking, the decline of the shearsmiths and the development of the scissor trade in Darnall.

Apprentices from the Attercliffe Township

Table 5.9 summarises the number of boys from each community who remained in the Township for their training and the number who went elsewhere.

	master→	Attercliffe			Carbrook			Darnall			Elsewhere			
	parent ↓	c	sc	sh	c	sc	sh	c	sc	sh	c	sc	sh	total
Attercliffe	cutlers	26	9		1						6	1		43
	scissorsmiths	5	12								2	4		23
	shearsmiths		1	1							1	1		4
	other	11	13	1	1		1	1			8	3		39
Carbrook	cutlers						1							1
	scissorsmiths													0
	shearsmiths	1			1									2
	other													0
Darnall	cutlers	2						10		1	8			21
	scissorsmiths													0
	shearsmiths									3				3
	other	4	2					3		2	4		3	18
total		**49**	**37**	**2**	**3**	**0**	**2**	**14**	**0**	**6**	**29**	**9**	**3**	**154**

Table 5.9 The numbers of apprentices from Attercliffe Township to 1679; where they were trained, within the Township and elsewhere. Shaded areas indicate parent and master of the same craft in the same place.

The Table shows the three townships and the crafts of both masters and parents; 'other' parents being those men whose occupations were not controlled by the

Cutlers' Company. The shaded cells indicate parent and master at the same place and the same craft. Not surprisingly, most boys stayed in their home village to be trained in the same craft as their fathers, strengthening local traditions and trade specialisation.

As might be expected, Attercliffe village produced more apprentices than Darnall and Carbrook, and trained most of its own boys, who generally had a cutlery background. Of those who chose to leave the Township for training, seventeen went to Sheffield town. Three boys went to Ecclesall and Nether Hallam, which is on the west of Sheffield, and the rest went to various places in the adjacent Township of Brightside.

The hamlet of Carbrook produced only three apprentices, two of whom remained in Carbrook and it only attracted three boys from the rest of the Township. Only half of Darnall's cutlers chose to keep their sons in Darnall and fathers not in the cutlery trades were also divided in their loyalties to local masters. The Darnall boys who did leave the Township were scattered more widely than the Attercliffe boys. Four boys were sent to Sheffield, four to Brightside and one boy went to Greenhill in the parish of Norton. Three boys went to shearsmiths in the parish of Eckington. In this period, no sons of scissorsmiths were apprenticed either locally or elsewhere.

Apprentices from outside the Township

Attercliffe Township masters registered 160 'outsider' apprenticeships and Table 5.10 summarises their origins and backgrounds. The parents and apprentices are grouped according to their trade and location - from Sheffield Township, from the rest of Hallamshire, from the adjacent parishes of Norton and Eckington and from everywhere else. A third of the apprenticeships came from outside the Cutlers' Company sphere of influence and had no background in the cutlery trades. The data in Table 5.10 indicates the attractiveness of Attercliffe in particular. Fathers in non-cutlery trades were more likely to send their sons to the Attercliffe Township than cutlers, scissorsmiths or shearsmiths. If cutlery craftsmen did send their sons to the Township, it was likely to be to a master in the same trade.

	masters→ parents↓	Attercliffe c	sc	sh	Carbrook c	sc	sh	Darnall c	sc	sh	totals
Sheffield town	cutlers	4	5					1	1		11
	scissorsmiths	-									0
	shearsmiths	-									0
	others	11	3	1				2			17
the rest of Hallamshire	cutlers	7						1	1		9
	scissorsmiths	-							1		1
	shearsmiths	-	1							1	2
	others	9	7					9	1	1	27
Eckington/Norton	all occupations	5	1			2		2			10
Elsewhere	cutlers	3	3			1		1			8
	others	23	4	4	2			18	1	4	56
	no occupation	7	3	2					1		13
unidentified location	all occupations	3	3								6
	Totals	**72**	**30**	**7**	**2**	**3**	**0**	**34**	**6**	**6**	**160**

Table 5.10 Summary of the numbers and origins of apprentices to the Attercliffe Township masters up to1679. Shaded areas indicate parent and master in the same craft.

The information indicates that Attercliffe Township attracted many apprentices from outside Hallamshire and many who did not have a metalworking background. This is important in considering any expansion in the cutlery-making communities of Attercliffe Township. It has been remarked that the Darnall scissorsmiths did not register any of their sons to the trade, nor did they take any other local boy. Scissormaking in Darnall therefore depended on 'outsiders' to survive. In 1672, two of the four identified scissorsmith masters in Darnall were outsiders and the four masters trained six outsiders.

Apprentices who stayed in the Attercliffe Township

The immigration of boys and men is one of the interesting aspects of the expansion of the cutlery trades in Sheffield. The earlier work of Buckatszch in identifying the origins of migrants showed that Sheffield could attract people from a wide area.

However, it has been difficult to establish how many trained men became settled workers in Hallamshire. Sixty-five 'outsiders', trained in Attercliffe Township before 1679, ultimately became freemen and about half of them have been identified from the registrations of their apprentices. Twenty-three stayed in the Township and twelve freemen returned home. The following table lists the names, origins and backgrounds of the twenty-three identified freemen who remained in Attercliffe Township. Names in italic are men from outside the sphere of influence of the Cutlers' Company

	Surname	first name	craft	freedom	origin	son of a: -	settled in :
1	Bullas	George	cutler	1628	Skinnerthorpe	yeoman	Darnall
2	Rossington	Clement	cutler	1632	Handsworth	cooper	Darnall
3	Beet	John	scissors	1633	Sheffield	cutler dec.	Attercliffe
4	Selioke	William	cutler	1635	Dronfield	gentleman	Attercliffe
5	Beane	Thomas	cutler	1637	Handsworth	husbandman	Carbrook
6	*Sturtivant*	*John*	*cutler*	*1639*	*Kneesall*	*husbandman*	*Attercliffe*
7	Swinden	Lawrence	scissors	1639	Sheffield	- dec.	Attercliffe
8	Sorsby	Lawrence	cutler	1640	Birley Carr	chapman dec.	Attercliffe
9	*Storer*	*Francis*	*scissors*	*1641*	*Tutbury*	*labourer*	*Attercliffe*
10	Topcliffe	Robert	scissors	1641	Sheffield	collier	Attercliffe
11	*Beldon*	*Roger*	*scissors*	*1643*	*Beckingham*	*yeoman*	*Darnall*
12	*Hunt*	*Thomas*	*cutler*	*1645*	*Roche Abbey*	*husbandman*	*Darnall*
13	Newbould	James	scissors	1646	Brightside	cutler	Attercliffe
14	Smith	William	scissors	1646	Killamarsh	corvisor	Attercliffe
15	Twigg	John	scissors	1652	Sheffield	-	Attercliffe
16	*Hibbert*	*George*	*scissors*	*1653*	*Stirrop, Notts.*	*husbandman*	*Attercliffe*
17	*Kent*	*Joseph*	*scissors*	*1655*	*Aughton*	*cutler*	*Darnall*
18	Rudd	Robert	scissors	1655	Orgreave	husbandman	Attercliffe
19	*Knott*	*George*	*cutler*	*1656*	*Greasbrough**	*linen weaver*	*Attercliffe*
20	Scargill	Thomas	scissors	1663	Sheffield	-	Attercliffe
21	*Knott*	*William*	*cutler*	*1664*	*Cressbrook **	*weaver*	*Attercliffe*
22	Horrabin	Thomas	cutler	1667	Orgreave	cowper	Darnall
23	*Fretwell*	*John*	*cutler*	*1669*	*Maltby*	*clerk. dec*	*Attercliffe*

Table 5.11 'Outsiders' who were trained and remained in the Township, prior to 1672. * The origins for George and William Knott, Greasbrough and Cressbrook are the same word wrongly transcribed.

Men such as these were responsible for small increases in the size of the manufacturing community. Several had surnames of the core families and thus may

have had close family links. Some men, such as Clement Rossington, appeared fleetingly in the community, while others established a family involvement that continued for several generations. An interesting feature of the men listed above is that all but three came from a non-cutlery background. These men, especially those who came from further afield, probably realised that without local resources, they had little prospect of a successful working life back home and opted to stay in Attercliffe.

Summary

In the years before 1672, the Township parents generated 113 apprenticeships to local masters, while only forty-one boys went elsewhere. These boys went mainly to Sheffield and areas to the east of Sheffield town. The Township appears to have been able to satisfy the training needs of its own boys, even the boys from non-cutlery backgrounds. Boys were more likely to be apprenticed to their fathers' trades, strengthening links within a trade and fuelling the development of a community's specialisation in a particular trade. Training boys locally re-enforced the close community of masters and emphasised the family ties. This continuity from father to son demonstrates the rather narrow outlook of parents who chose to train their sons in a trade for which they themselves had knowledge.

Outsiders were attracted to the township in sizeable numbers, though it is interesting that non-cutlery fathers from Sheffield were more likely to send their sons to Attercliffe than were the cutlery craftsmen. By identifying these outsiders and their apprentices, their whereabouts after they were trained can be deduced. Clearly several outsiders stayed in the Township in each decade and added to the slow increase in the number of craftsmen, but it cannot be said that these men would have made a large impact on the community.

The Non-freemen

At the end of their training, apprentices had the choice of becoming a master by registering a mark, or being a journeyman craftsman without a mark and having to work for a master. It is difficult to know what reasons were important in making this decision, whether it was existing links with family craftsmen, the lack of money to establish a workshop, poor motivation or poor skills. Whatever the reason, about half of all known apprentices chose not to become freemen.

	Surname	First name	son of a	trained to be a	father dead	completed training
1	Marshall	George	cutler	cutler	-	1639
2	Binks	Thomas	corviser	shearsmith	-	1643
3	Shawe	John	cutler	cutler	-	1644
4	Challinor	Hugh	yeoman	scissorsmith	-	1645
5	Barber	Richard	cutler	cutler	y	1646
6	Smith	William	sheather	cutler	y	1646
7	Taverner	William	carpenter	[cutler]	y	1647
8	Beighton	William	scissorsmith	scissorsmith	y	1648
9	Goddard	Humfrey	weaver	scissorsmith	y	1648
10	Kent	William	cutler	cutler	y	1648
11	Bullas	John	cutler	[cutler]	y	1652
12	Kent	John	cutler	scissorsmith	-	1653
13	Beard	John	cutler	scissorsmith	y	1654
14	Bawe	George	cutler	scissorsmith	-	1655
15	Barber	William	cutler	cutler	y	1656
16	Clark	Thomas	cutler	cutler	y	1657
17	Staniforth	John	scissorsmith	cutler	y	1659
18	Kent	George	cutler	scissorsmith	y	1660
19	Challinor	Hugh	cutler	cutler	-	1660
20	Swifte	Robert	cutler	shearsmith	-	1662
21	Chapman	Thomas	cutler	cutler	-	1662
22	Caudwell	William	husbandman	scissorsmith	-	1663
23	Robinson	George	cutler	cutler	y	1663
24	Swindin	William	scissorsmith	scissorsmith	-	1663
25	France	John	cutler	cutler	-	1663
26	Bean	John	scissorsmith	cutler	-	1664
27	Swifte	William	yeoman	[cutler]	-	1665
28	Swindin	Lawrence	scissorsmith	scissorsmith	-	1666
29	Twigg	Richard	arrowheadsmith	cutler	-	1667
30	Oaks	William	tailor	cutler	-	1669
31	Spencer	John	husbandman	scissorsmith	-	1671

Table 5.12 Non-freemen originating and trained in the Attercliffe Township. The occupations of their fathers are given and whether they were dead at the time of their son's apprenticeship.

Table 5.12 lists the names of the locally born and trained non-freemen in date order. Some locally trained Attercliffe apprentices, who did not become freemen, have subsequently been identified from the Cutlers' Company records. The strength of family and training ties in the community would keep some of the non-freemen in the Township and they would then appear in the Hearth Tax returns. Although none of the men can be positively identified as taxpayers, several were connected to people in the Hearth Tax returns. Robert and William Swift and Robert Oakes may have returned to their fathers, while Richard and William Barber might have lived with their brother John, a freeman. George Swinden, a freeman scissorsmith may have accommodated his brothers William and Lawrence. The Kents and Challoners probably had family links with Attercliffe taxpayers of the same surnames. The rest of the men cannot be linked with anyone, except that the masters of twelve of these non-freemen were listed in the Hearth Tax returns and it is possible that some, if not all, of the non-freemen remained with their masters. About a third of the parents of the non-freemen were dead, so unless they returned to a widowed mother, these men would not have reason to return home.

Summary

This exercise has attempted to trace only the local non-freemen and because it has been rather unproductive, no attempt was made to trace the outsiders and local boys who were trained elsewhere. Only two non-freemen can definitely be identified as Attercliffe taxpayers. They are John Stacey and William Penniston of Darnall, both were without a smithy hearth and both were certificated poor. John Stacey was the son of a yeoman at Owlerton, near the confluence of the rivers Loxley and Don. His father was dead when John was apprenticed to Stephen Carr of Attercliffe in 1660. For some reason, he left Carr and returned to Owlerton to a second master. The reasons behind these movements cannot be known.

William Penniston only appeared in the Cutlers' Company records when he registered his son Timothie to Godfrey Creswick. He described himself as a cutler, but there is

no information about his training. The Cutlers' Company records the freedom of a James Penniston in 1638, who then trained his son James, freedom 1660. It is possible that William was also a son of James, senior. If so, then this is an example of a freeman's son escaping mention in the records by not being formally registered as an apprentice and by not becoming a freeman.

Handsworth

The village of Handsworth was at the centre of its parish, whish was adjacent to the southern border of Attercliffe Township and the parish's small communities of metalworkers were similar to those in adjacent parishes. Handsworth village, having cutlers and scissorsmiths, was close to Darnall, while Gleadless, adjacent to Norton parish, had scythesmiths. Surnames also show the ties between these communities.

number of entries	103	empty	4
number of hearths	222	new chimneys	-
average no. of hearths	2.1	demolished chimneys	-
no. of properties with smithies	7		
no. of smithies	7	poor, with or without certificates	5
%age of taxpayers with smithies	6.8	widows & other women	15

Table 5.13 Summary analysis of the numbers of hearths and smithies for Handsworth Parish

Handsworth had a small but varied community of craftsmen, including two scythesmiths and a filesmith who joined the Company after 1672. Seven smithy hearths were taxed and the owners of four have been identified. The analysis of the smithy hearth owners, once again demonstrates that craftsmen, especially cutlers, were able to work without a personal forge.

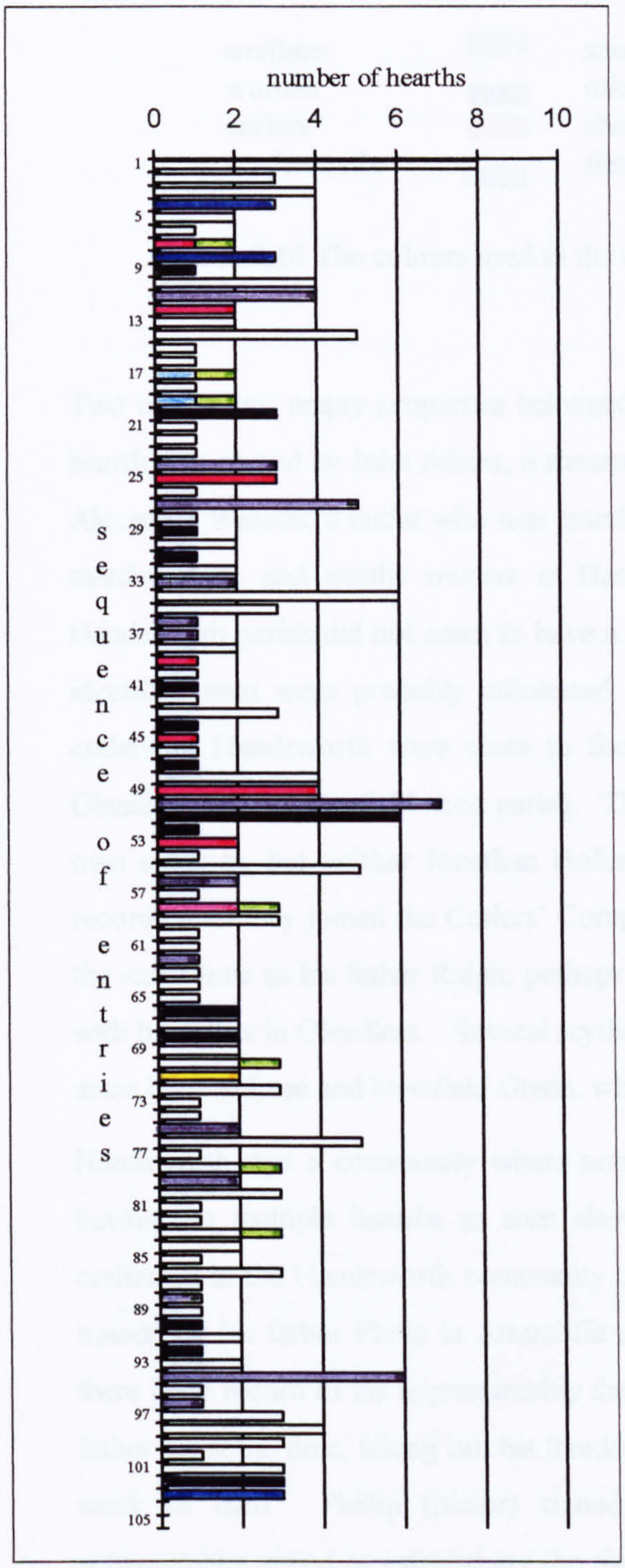
	smithies		craftsmen		poor	
	1	2	with	without	with	without
cutlers	1	-	1	7	-	-
scissorsmiths	-	-	-	3	-	-
shearsmiths	1*	-	1*	-	-	-
scythesmiths	2	-	2	-	-	-
filesmiths	-	-	-	1	-	-
women	-	-	-	-	-	2
other	-	-	-	-	-	-
not known	3	-	-	-	-	-
Totals	**7**	**-**	**4**	**11**	**-**	**2**

Table 5.14 Analysis of the smithies and owners in Handsworth parish.

* this property was empty and owned by non-resident craftsmen.

sequence in Hearth Tax	surname	first name	freedom	h	sm	craft	further details
4	Challoner	Phillip	1667	3	-	scissorsmith	son of Phillip, scissorsmith, Attercliffe
7	Stacy	Willm	a1657	1	1	cutler	son of Wm, cutler
8	Cowley	Jos.& Widd.	1664	3	-	scissorsmith	son of John, carpenter, Gleadless
12	Firth	Robert	1628	2	-	cutler	son of Thomas, Carter Knowle
17	Cartwright	Ralph	1681	1	1	scythesmith	Gleadless
19	Holland	Jona.	1681	1	1	scythesmith	-
25	Fenton	Fran.	1638	3	-	cutler	son of Richard, cutler Woodthorpe
39	Jeffcock	Edmond	1626	1	-	cutler	son of Robert
45	Jarvice	Robt	a1636	1	-	cutler	son of Robert, blacksmith; entry no.88
49	Stacy	Mallin	a1654	4	-	cutler	-
53	Watson	Sander	1641	2	-	cutler	owner , empty, owner in Sheffield 2nd part
58	Atkins	John	1662	2	1	shearsmith	empty
70	Shepley	John	-	2	1	-	A Shop Chimney
71	Gate Cliffe	John	1676	2	-	filesmith	-
78	Osgathorpe	Willm	-	2	1	-	-
83	Bullas	Wm	-	2	1	-	-
103	Beldon	Roger	1642	3	-	scissorsmith	son of George, yeoman, Beckinghan; constable

Table 5.15 List of the smithy owners and identified metalworkers in Handsworth parish. a = apprenticeship date; h = domestic hearth; sm = smithy hearth



vicarage 1

Gleadless 11,12,17

Richmond 36,37

Ballifield 50;

Handsworth Woodhouse 56,62

Figure 5.10 The distribution of hearths and smithies in Handsworth

smithies		scissorsmiths	
women		others	
cutlers		shear/sicklesmiths	
scythesmiths		filesmiths	

Table 5.16 The colours used in the distribution graph, Figure 5.10

Two of the four empty properties belonged to cutlery craftsmen. One with a smithy hearth was owned by John Atkins, a shearsmith, and the other was a house owned by Alexander Watson, a cutler who was taxed in Sheffield 2nd Part. The analysis of the metalworkers and smithy owners in Handsworth reveals some atypical features. Handsworth parish did not seem to have a coherent community of craftsmen, but the identified men were probably influenced by the larger communities nearby – the cutlers of Handsworth were close to those in Darnall, while the scythesmiths of Gleadless had links with Norton parish. The two identified scythesmiths owned their own smithies, but neither Jonathan Holland nor Ralph Cartwright appeared in the records until they joined the Cutlers' Company in 1681. Joseph Cartwright joined at the same time as his father Ralph; perhaps being in training in 1672, or simply living with his father in Gleadless. Several scythesmiths called Holland lived in the adjacent areas Norton Lees and Newfield Green, which was in Lower Hallam.

Handsworth was a community where none of scissorsmiths had a smithy, let alone having the multiple hearths as seen elsewhere and few links between any of the craftsmen in the Handsworth community can be seen. Philip Challoner (F1667) was trained by his father Philip in Attercliffe and, as was common with freemen's sons, there is no record of his apprenticeship date. He had probably been working with his father for some time, taking out his freedom when his father either became too old to work or died. Phillip (junior) signed the three covenants drawn up by the scissorsmiths aimed at establishing the Storehouse and limiting their working hours. Joseph Cowley, son of a carpenter, was apprenticed to William Bamforth, scissorsmith, in Sheffield in 1654, and his brother John, was apprenticed in 1662 to a

cutler in Sheffield. The third scissorsmith was Roger Beldon, the parish Constable, who was an 'outsider' from Nottinghamshire, trained by John Smithe in Attercliffe in 1632. He remained to found a dynasty lasting for over a hundred years. He trained his sons John (F1666), James (F1672), Roger (1678) and Daniel (F1685), though in all the apprenticeship entries, he is listed as being in Darnall. It is likely therefore that he lived very close to the Attercliffe Township/Handsworth parish border, seeing himself as part of the Darnall community of scissorsmiths. The fact that he had no smithy makes one wonder how he trained his sons to forge. However, Joseph *Beldom*, with a smithy, was taxed in Darnall (29) but there is no record of his training. It is likely that he was another son of Roger. Joseph only appears in the records when he sent his son John, to be trained by a Darnall cutler in 1685.

The only identified filesmith did not have his own smithy and only one of the five cutlers, a non-freeman, had a smithy hearth. There were no family or training links between these craftsmen. The Handsworth parish craftsmen appear more like the craftsmen in the rural parts of Sheffield, being few in number, with few smithy hearths and no close family and training links.

Conclusions

The aims for this Chapter were to identify the craftsmen who lived in a well-established community, with their ability to train apprentices and absorb outsiders. These aims were additional to the identification and distribution of the smithy hearth owners and any evidence of under-recording.

Attercliffe Township is a satisfying area with which to work, because it had discrete communities where the masters and apprentices clearly identified their place of origin and work. This has been very important in locating the Hearth Tax entries and demonstrated the differences between the communities of craftsmen in Attercliffe and Darnall. The issue of under-recording the inhabitants in the Hearth Tax return has been addressed and several people do seem to be missing from the lists, but evidence

suggests that some of them could have been lodging with family or masters. There is probably no way of discovering whether these missing people were lodgers, but I consider this to be a feature worth remembering.

Attercliffe Township had open fields and common lands, which made agriculture a prime occupation. Its inhabitants included gentlemen and widows, poor cutlers and weavers, farmers and scissorsmiths and others who were involved in variety of crafts and trades. The houses were mainly grouped in three nucleated settlements, each having a large Hall. By using the records of the Cutlers' Company, a picture has emerged of the Township's involvement in metalworking.

The Hearth Tax returns give the approximate populations in Attercliffe, Darnall and Carbrook, with the relative size and distribution of the cutlery communities. The records provided information on the location and identity of the smithy hearths owners and the Hearth Tax returns indicate the craftsmen who were alive in 1672. The communities of identified craftsmen were quite small and consisted principally of freemen, most a having smithy hearth. Most of the identified craftsmen were in their middle years, though some quite elderly men were still working in the villages, while newly trained craftsmen do not seem to have established themselves in houses or had smithies.

Many craftsmen were listed consecutively, in clusters, which may or may not indicate physical groups of houses with smithies. Importantly, it has been shown that because some craftsmen did not have their own smithies, the number of smithies does not accurately indicate the size of the cutlery manufacturing community. The fact that not all the craftsmen had their own smithy hearth, suggest they might have been concentrating on one aspect of manufacture or working jointly with other smithy owners.

The freemen often belonged to core families who maintained the cutlery skills through family and training links, attracting apprentices from outside the Township as well as training the local boys. The apprentices who were trained in Attercliffe Township represented the future of the cutlery communities. It seems that sufficient

masters were able to train local boys and to attract boys from elsewhere; but evidence suggests that only a small proportion of 'outsider' apprentices remained in the community. Because these three communities were close-knit, with well-established families and possibly limited housing, outsiders might have found it difficult to move in. The presence of the core families, the strength of family ties and master/apprenticeship links could act as barriers to incomers as well as providing continuity to the trades.

The problems locating the non-freemen mean that it is difficult to appreciate how the non-freemen worked with their masters. Evidence suggests a 'two-tier' system in the manufacture of cutlery, in economic terms as well as in production terms. Non-freemen might have been missing from the taxation list on the grounds of poverty, by not being able to sell the things they made. It is also suggested that non-freemen were more likely to be lodgers or living with their masters, at least for some part of their working lives. In addition, by having no smithy hearth, they may have led the way into the specialisation of one aspect of manufacture.

This chapter has dealt at length with the reconstruction of communities of craftsmen showing the ways in which the apprenticeship records can complement the Hearth Tax records. Other areas will not be treated in such a detailed way, partly because the other Townships do not possess similar nucleated villages and because they do not have such communities of craftsmen.

[1] Crossley, D., ed., *Water Power on the Sheffield rivers* (Sheffield 1989) 21
[2] ibid pp.29-31
[3] Sheffield Archives, Bagshawe Collection, 333
[4] Hey, D., *History of Sheffield* (Lancaster 1998) 42
[5] Bostwick, D., *Sheffield in Tudor and Stuart Times* (Sheffield 1985) 25
[6] Walton, M., 'The Three Darnall Halls', *Journal of the Hunter Archaeological Society*, V (1943) facing p.126
[7] Hey, D., *The Hearth Tax returns for 1672* (Sheffield 1991) p.iv
[8] Hey, D., *The Fiery Blades of Hallamshire*, (Leicester 1995)
[9] Tucker, S.I., 'Descent of the Manor of Sheffield', *Journal of the British Archaeological Association*, 30 (1874) 266-9
[10] Wakefield Record Office, Quarter Sessions records, QS 1/10/4

Chapter 6
Brightside Bierlow and Ecclesfield Parish

Three features of the cutlery trades will be examined using the Hearth Tax returns for this part of Hallamshire. First, the returns reveal that the cutlers, etc. were scattered in small villages and hamlets in these rural townships, generally with only one or two craftsmen, unlike the large concentrations in the Sheffield and Attercliffe Townships. Secondly, these small communities often had core families who had been involved in cutlery manufacture over several decades, influencing the trades being practised there. The third issue is the ability of different communities to train apprentices to fuel any local expansion. In addition, the nailmakers, who were never part of the Cutlers' Company, had an effect on the distribution and spread of cutlery manufacture in the Ecclesfield parish.

Many of these small groups of craftsmen had existed since at least the beginning of the 17th century and their continuity often depended on one family's involvement. Some communities expanded and diversified in the later 18th century, especially those turning to the manufacture of specific items, such as forks, razors and pocket-knives. The Hearth Tax returns of 1672 provide reference points for this examination, being almost at the end of a static period of growth in these cutlery-manufacturing communities.

Introduction

A general description of Brightside and Ecclesfield

Brightside Bierlow (an archaic word for a township) was the north-easterly township of Sheffield parish, with Ecclesfield parish to the north. The Township was bounded on the west and south by the river Don and the parish of Rotherham was to the east. The 1796 map by Fairbank shows it was an area of small fields, woods and hamlets, unlike the open field landscape of Attercliffe Township, south across the river Don. Although this Township was larger than Attercliffe, there were fewer taxpayers, with the largest concentration of people around Bridgehouses and the Wicker, which were closest to Sheffield town.

The village of Ecclesfield, with its beautiful church was the centre of the parish and had the biggest concentration of people. The parish was large, with scattered hamlets, commons and open fields, plus substantial areas of woodland. It included the much larger chapelry of Bradfield to the west, which will be discussed in a subsequent chapter. The Hearth Tax lists the parish in four parts: Ecclesfield, Greenhowfrith (Grenofrith), Souther Soke (Southey) and Wadsley. Properly, Southey 'Soke' was a manorial subdivision of Sheffield and included Brightside Bierlow, but the area described here is the Southey quarter of Ecclesfield parish, even though the word 'Soke' was used.

In previous chapters, the reconstructed communities of craftsmen have shown the close-knit relationships within them and how outsiders could have been absorbed. This chapter will consider areas, which had scattered craftsmen, making similar reconstructions uninformative. Therefore, reconstructions will concentrate on the numbers of masters actively training boys which can be seen as a measure of confidence in the trades. Any expansion in a community's size depends on

attracting apprentices, retaining the trained craftsmen and having physical resources such as houses, workshops and possibly, access to grinding wheels. It will be seen that some areas could do this quite well, sometimes keeping their original trade orientation, but interestingly, many places, especially in Ecclesfield, expanded by embracing the newer crafts of filemaking, fork- and razormaking.

Problems of locations

The identification of specific places depends primarily on the information in Cutlers' Company apprenticeship and freedom records. In the indentures, parents and masters usually gave their village, but these locations sometimes do not accord with the ancient boundaries of the manors, parishes and Hearth Tax assessment areas. This is particularly true around the borders of Brightside Bierlow with the Southey quarter of Ecclesfield. For instance, several Longley cutlers called Barnsley appear in the Brightside returns, but Lancelot Bradbury, a cutler at Longley in 1671, was in the Southey return. Similarly, William Mason, a cutler of Shiregreen, was taxed in Brightside, while John Addy, a Shiregreen scissorsmith, was in the Southey return. Wincobank is slightly more confusing in that there were two hamlets –Wincobank and Little Wincobank – but the Cutlers' Company records did not distinguish between them. As a result, cutlers William Denton and Elias Loy of (Little) Wincobank were in Brightside and several men called Milner, who were Wincobank cutlers, were taxed in Southey. The Fairbank map of 1796 shows Norwood and Longley in Brightside but in 1672, they were listed in the Southey quarter of Ecclesfield parish. Because of these anomalies, the data relating to these areas cannot be as definitive as might be wished.

Brightside Bierlow

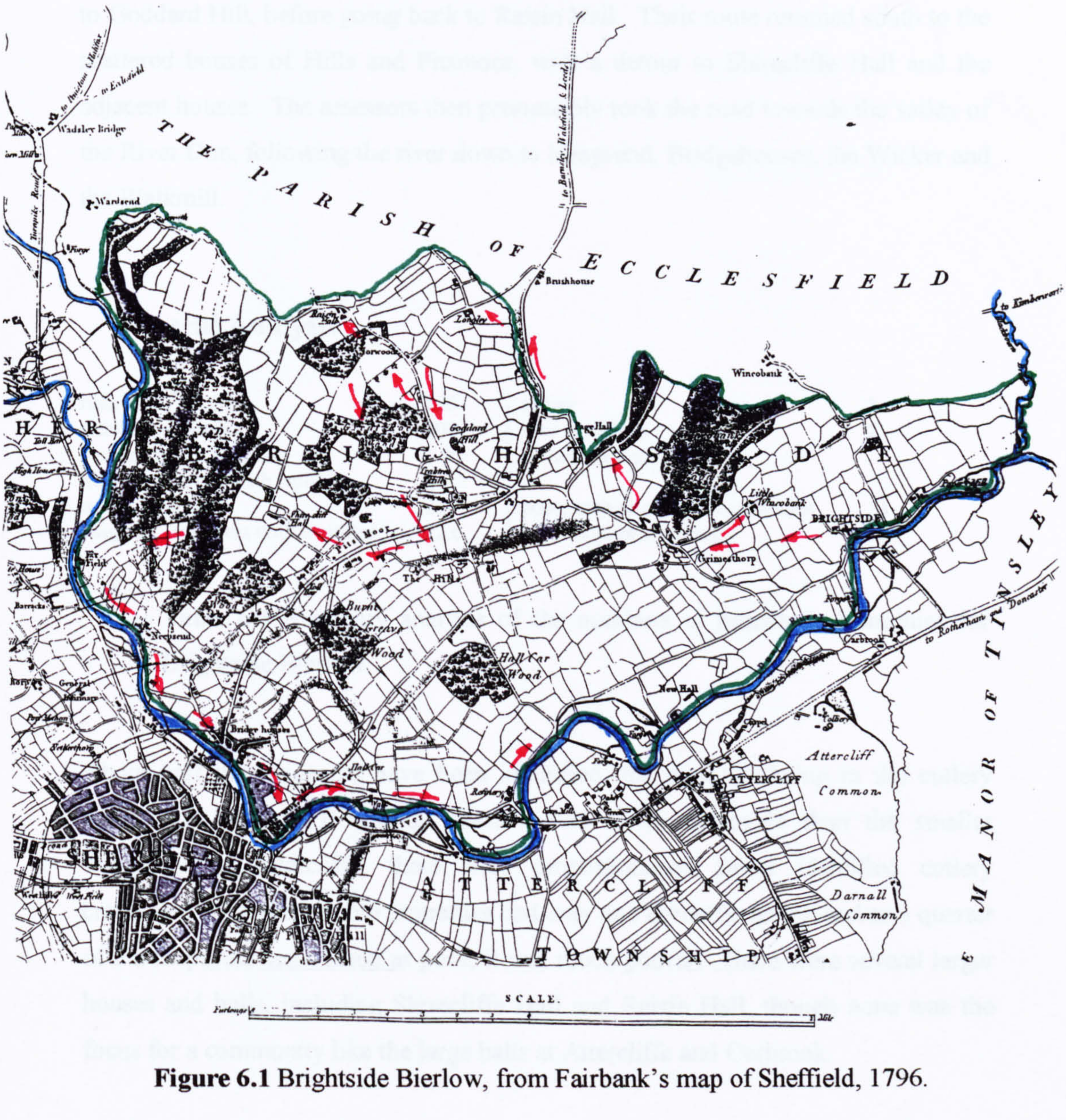


Figure 6.1 Brightside Bierlow, from Fairbank's map of Sheffield, 1796.

The probable route taken by the Collectors can be suggested from the location of the cutlery craftsmen and has been marked on the map in Figure 6.1. Starting in the hamlet of Brightside, which was the farthest point east, their route seems to have been a wide sweep around the perimeter of the Township. From Brightside, the

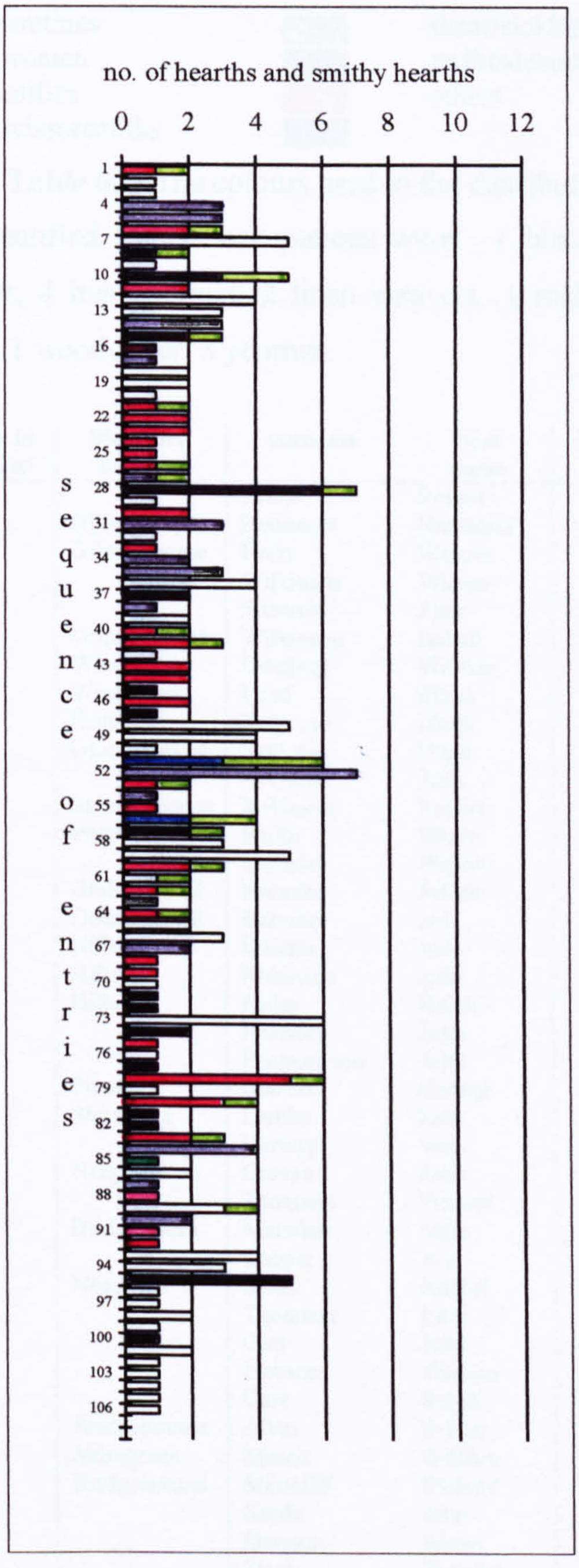
Collectors went to Grimesthorpe, Wincobank and then to Page Hall and Brushes on the northern boundary. From there, they turned south to Longley, past Piper House to Goddard Hill, before going back to Raisin Hall. Their route returned south to the scattered houses of Hills and Pitsmoor, with a detour to Shirecliffe Hall and the adjacent houses. The assessors then presumably took the road towards the valley of the River Don, following the river down to Neepsend, Bridgehouses, the Wicker and the Walkmill.

General Analysis

number of entries	106	empty	3
number of hearths	208	new chimneys	2
average no. of hearths	1.9	demolished chimneys	-
no. of properties with smithies	24		
no. of smithies	28	poor, with or without certificates	23
%age of taxpayers with smithies	22.6	widows & other women	17

Table 6.1 Summary analysis of the numbers of hearths and smithies for Brightside Bierlow.

About half the taxpayers have been identified, the majority being in the cutlery trades, but because Brightside Bierlow had fewer taxpayers than the smaller Township of Attercliffe, there were proportionately fewer identified cutlery craftsmen. Half the taxable properties had only one domestic hearth and as a quarter of the taxpayers were listed as poor, it was much poorer. There were several larger houses and halls, including Shirecliffe Hall and Raisin Hall, though none was the focus for a community like the large halls at Attercliffe and Carbrook.



Grimesthorpe 5,

Grimesthorpe 14,17,24

Wincobank 22,
Brushes 23
Skinnerthorpe 26,
Longley 28,34,

Piper House 31,
Goddard Hill 33,

Raisin Hall 35,

Hills 40,42

Pitsmoor 51
Shirecliffe Hall 52,
Shirecliffe 53,
Neepsend 56,64

Bridgehouses 67, 75,

Bridgehouses 78,83,84,97

Wicker 90,91;

Walkmill 94

Figure 6.2 The distribution of domestic and smithy hearths and occupations in Brightside Bierlow.

smithies		shear/sicklesmiths	
women		awlbladesmiths	
cutlers		others	
scissorsmiths			

Table 6.2 The colours used in the distribution graph.

The identified 'other' occupations were : 1 blacksmith; 1 chapman; 1 dissenting minister; 4 husbandmen; 2 linen weavers; 1 maltster; 1 slater; 1 tanner; 1 wood collier; 1 woodcutter; 3 yeomen.

sequence in Hearth Tax	identified location	surname	first name	freedom date	smithy	craft
1		Hoole	Robert	a1638	1	cutler
6	Gilberthorpe	Robinson	Nathaniel	1628	1	cutler
8	Grimesthorpe	Harrt	Widow	-	1	-
10		Wilkinson	Widow	-	2	-
12		Shemeld	John	1641	-	cutler
15	Grimesthorpe	Wilkinson	Isabell	-	1	-
21	Wincobank	Dent[on]	William	1654	1	cutler
22	Wincobank	Loyd	Ellias	1645	-	cutler
23	Brushes ?	Nott, sen	Hugh	1627	-	cutler
24	Grimesthorpe	Nott, jun	Hugh	a1644	-	cutler
25		Archdale	John	a1626	-	cutler
26	Skinnerthorpe	Robinson	Robert	1626	1	cutler
27	Pitsmoor	Smith	Henry	-	1	blacksmith
28		Barnsley	Widow	-	1	-
30	Goddard Hill	Barnsley	Joshua	1670	-	cutler
33	Goddard Hill	Barnsley	Jos.	1670	1	cutler
40	Hills	Burgon	John	1653	1	cutler
41	Hills	Robinson	John	1663	1	cutler
43	Hills	Hides	Ralph	1666	-	cutler
44		Pearson	John	1641	-	cutler
46		Pearson, sen	John	-	-	cutler
51	Pitsmoor	Machin	George	1638	3	scissorsmith
53	Shirtcliffe	Lambe	Edw.	1644	1	cutler
55		Hartley	Wm.	-	-	cutler
56	Neepsend	Graves	John	1660	2	scissorsmith
57		Thomson	Widow	-	1	-
60	Bridgehouse	Marsden	John	-	1	cutler ?
61		Capper	Jos.	-	1	-
62	Neepsend	Swift	Robert	1638	1	cutler
64		Thomson	Edw.	1662	1	cutler
68		Carr	John	-	-	cutler
69		Hobson	Thomas	a1641	-	cutler
75		Carr	Ralph	1651	-	cutler
78	Bridgehouses	Allen	Robert	1646	1	cutler
80	Shiregreen	Mason	William	1646	1	cutler
83	Bridgehouses	Shirtcliff	Richard	1636	1	cutler
85		Sands	John	1678		awlbladesmith
88		Dawson	James	a1656	-	shearsmith
89		Stacy	Timothy		1	-
91		Burley	Wm	1654	-	shearsmith
92		Webster	Jona	-	-	cutler

Table 6.3 The smithy owners and identified cutlery craftsmen in the Brightside Bierlow Hearth Tax returns, 1672. 'a' denotes apprenticeship date

Figure 6.2 shows the distribution of domestic and smithy hearths. As a group, the cutlers dominated the Township but lived in small communities at Grimesthorpe/ Skinnerthorpe, Hills, Pitsmoor and in Bridgehouses. Only two scissorsmiths have been identified, typically having more than one smithy hearth, but neither the identified awlbladesmith nor the two shearsmiths had one. No filesmiths or scythesmiths have been identified in the Brightside Bierlow Hearth Tax return.

The smithy hearths

The identification of the smithy owners and their precise location in the Township shows that only two or three cutlery craftsmen lived in several of the scattered hamlets. The quantitative analysis of the smithy hearth owners demonstrates that, compared with Attercliffe Township, slightly fewer craftsmen had forging facilities; that scissorsmiths generally had more than one smithy hearth and that the possession of a smithy might have kept people above the poverty line, or that a certain income was necessary to maintain one. Interestingly, five of the smithy owners were women, whose surnames link at least two of them to the cutlery trades. If so, it is likely that they owned their late husbands' smithies, which were being worked by their relatives, journeymen or were rented out to craftsmen without their own hearths.

	smithies			craftsmen		poor	
	1	2	3	with	without	with	without
cutlers	14	-	-	14	13	-	3
scissorsmiths	-	1	1	2	-	-	-
shearsmiths	-	-	-	-	3	-	-
awlbladesmith	-	-	-	-	1	-	1
women	4	1	-	-	-	1	4
other (blacksmith)	1	-	-	-	-	-	-
not known	2	-	-	-	-	-	14
Totals	**21**	**2**	**1**	**16**	**17**	**1**	**22**

Table 6.4 Analysis of the smithies and owners in Brightside Bierlow.

The impression gained from Table 6.3 is that the area was dominated by the cutlers, but the small hamlets had only one or two craftsmen and although family and training links do not seem, to have played a significant part in the structure of the

communities. However, a closer analysis of some hamlets shows an interesting pattern of family dominance over time.

Communities of metalworking craftsmen in Brightside Bierlow

The Hearth Tax returns identify the approximate size and location of the cutlery-making communities and, by moving backward and forward in time, the evidence can show how these communities developed and changed. Profiles of pairs of small communities have been constructed by concentrating on the surnames of masters and on the dates of their apprentices. The decades in which masters of each surname had at least one apprentice are highlighted in order to give an image of the community and any changes in the composition of the crafts. This should be seen only as a generalised impression, since the data can relate to a long-lived master who took several apprentices, or it may represent several men of the same surname each taking only one boy. However, because there were strong family links within the crafts, it is felt that the picture presented is a legitimate reconstruction of the characteristics of communities over time.

Looking at these profiles, the continuity of surnames and core families often determined the trade structure of the community. Changes begin in the last decades of the 17th century when many of the core families were disappearing and the dominant craft was changing. It is not clear why fewer core families continued after 1700, with subsequent masters tending to operate for only a decade or so – at least, according to the apprenticeship records. Once the long-standing families disappear, the character of the communities could change quite markedly. Most communities of craftsmen had altered by the close of the 18th century, especially with the increased numbers of filemakers and forkmakers.

Shiregreen and Wincobank (Brightside Bierlow and Southey Quarter)

The profiles for Shiregreen and Wincobank show similar characteristics, both being dominated by cutlers, with occasional scissorsmiths, and having the same family names.

sequence in Hearth Tax	Surname	First name	freedom	h	sm	craft
Brightside 80	Mason	Wm	1646	3	1	cutler
Ecclesfield 58	Machin	Tho.& Hen.	-	2	-	husbandman & cutler
59	Miller	Ralph	1635	3	-	cutler
61	Millar	Hugh	-	1	1	farrier
62	Combe	Antho.	1639	2	1	cutler
63	Combe	Mathew	1647	2	-	cutler
66	Rose	John	1665	1	-	cutler
68	Mason	Wm	1646	1	1	cutler
Southey 20	Heward	John	1651	3	-	cutler
34	Addy	John	1661	1	1	scissorsmith
35	Addy	Rich.	-	1	-	miller
39	Staniforth	Willm	1637	2	-	cutler
44	Parker	Math.	1667	1	-	cutler
63	Preist	Mrs	-	6	-	-
70	Rymington	Wm	1654	1	-	cutler

Table 6.5 Identified Shiregreen taxpayers, giving the numbers of hearths and smithies, together with crafts and occupations.

The Cutlers' Company records have been used to identify people in Shiregreen and show the differences between these records and the taxation areas, which resulted in one man being taxed in Brightside Bierlow and seven in each of the Ecclesfield and Southey quarters. The majority were cutlers, five of whom had smithies. The returns listed John Rose as being poor and John Addy, a scissorsmith, had an unfinished smithy. The number sequence for the Tax returns perhaps suggests physical proximity for the Combe brothers and the Addys, who were father and son.

In Wincobank, apprenticeship records and the profile show families such as the Dentons, Milners, Nutts, Staniforths and Wilkinsons, dominated the cutlery trades. By correlating the data from the Cutlers' Company with the Hearth Tax listings, nine taxpayers can be positively identified in Wincobank. Most were cutlers, with five smithies plus a smithy belonging to a blacksmith. When Richard Milner, a cutler,

died in 1692, his inventory records his smithy gear with his grinding equipment at the Parker Wheel on the River Don.

sequence in Hearth Tax	Surname	First name	freedom	h	sm	craft
Brightside 21	Dent[on]	Wm	1654	1	1	cutler
22	Loyd	Ellias	1645	2	-	cutler
Southey 25	Nutt	Joseph	1648	1	1	cutler
26	Milner Jun.	Rich.	1645	2	1	cutler
42	Carr	Tho.	-	2	1	blacksmith
46	Milner	Nichollas	-	1	1	cutler
47	Milner	Tho.	1665	2	1	cutler
48	Wilkinson	Robt	1644	2	-	cutler
88	Milner	Thomas	-	1	-	cutler

Table 6.6 Identified Wincobank taxpayers, giving the numbers of hearths and smithies together with crafts and occupations.

Wincobank's community of cutlers was larger before the 1670s, which is not reflected in the Hearth Tax returns. Before 1672, Wincobank cutlers were self-perpetuating, generally apprenticing their sons to the trade. Twenty-two parents apprenticed thirty-seven boys; fifteen staying in Wincobank and those who left went to Sheffield town and to craftsmen on the east of the town centre. In the same period, twenty-four local cutlers and two scissorsmith took fifty-one apprentices, including fifteen local boys. Six 'outsiders' came from Ecclesfield parish, eight from the Rotherham area and eleven from Sheffield parish. However, some boys came from further away - from Conisbro', Cressbrook, Hathersage and South Kirkby. Just over a third had a background in the cutlery trades, the rest coming from agriculture or other manufacturing trades, such as weaving and tanning.

Changes took place in the 18th century, with a greater variety of craftsmen and the development of the file and fork trades. Forkmaking was not a new trade, but the Cutlers' Company only recorded the craft of 'forkmaker' after the 1780s. The first so recorded was George Oxspring, a Shiregreen cutler, who trained John Gregory, William Haslehurst and William Holmes. They all appear later as forkmakers in Shiregreen.

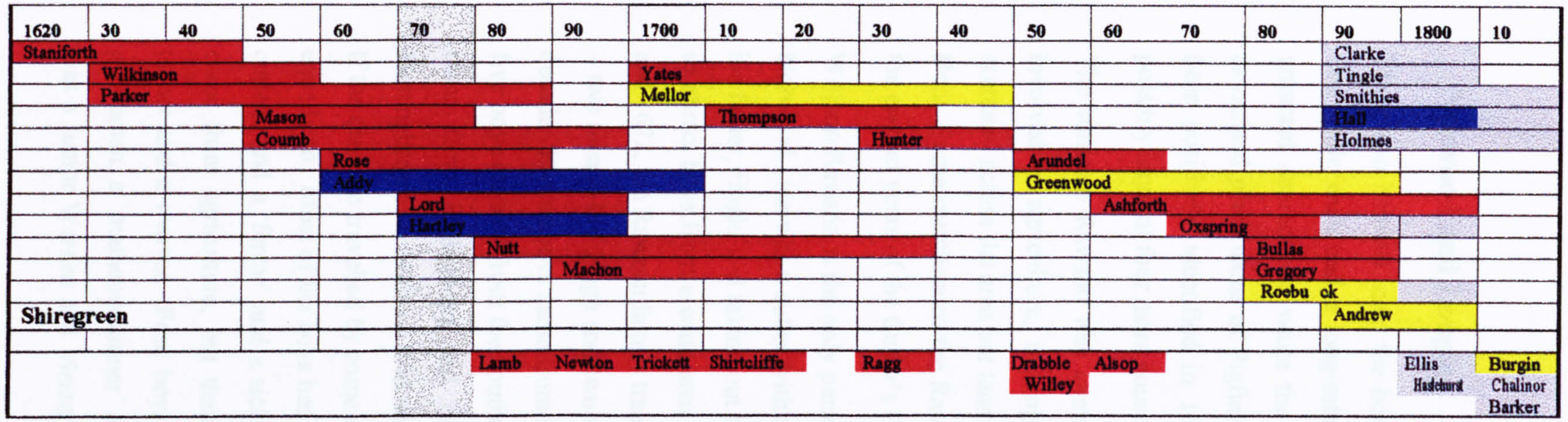


Figure 6.3 Profiles showing the surnames of masters operating in Shiregreen (top) and Wincobank; red indicates cutlers; blue – scissorsmiths; yellow – filesmiths; grey – forkmakers

Norwood and Longley

These two hamlets, near the border with Ecclesfield parish, provide a contrast in that while each had a long-established family; one had a dominant family that attracted apprentices, while the other had little appeal. In Norwood, with the associated place name of Pigfield, only the house of William Rawson, cutler, has been positively identified in 1672. From the sequence of entries, there were possibly three or four more houses, including one occupied by Wilkinson, a tanner.

The surname Rawson was common in the Brightside Township; the men being involved in agriculture, tanning and knifemaking. The Rawson yeomen were scattered across the area but tanning was carried out at Neepsend, close to the River Don. Some members of the Rawson family were involved in cutlery from at least the earliest years of the Cutler's Company.

William Rawson is the only person who can be identified in the Hearth Tax list for Norwood. He was a cutler with two hearths but no smithy, having been trained by his father, Hugh, and taking out his freedom in 1670. The Rawsons had the ability to attract boys from a wide area and from diverse backgrounds and between 1614 and 1672, the Rawson family trained thirty-one boys. At least four Rawson masters – two men called Hugh and two named John –trained between three and six boys a decade. Eleven boys came from nearby hamlets; six came from Sheffield town and five boys crossed from the southern and western parts of Hallamshire. Other boys came from Rotherham and one boy came from each of the following - Nottinghamshire, Malton, Wakefield and York, with two boys coming from Dublin. If the distance travelled by some of the boys is remarkable, then their background is equally so. Most of the boys had metalworking backgrounds – twelve were sons of cutlers, and a 'ferror' and a sicklesmith each sent a son. The next largest group came from agriculture, but there were sons of a butcher, ironmonger, spurrier, tanner and a weaver. Four boys were from a professional background, sons of a gentleman, a 'mathematitioner' and an instrument maker. In 1624, John Rawson was a Junior Warden and Master Cutler in 1625. His son (?) John was Master in

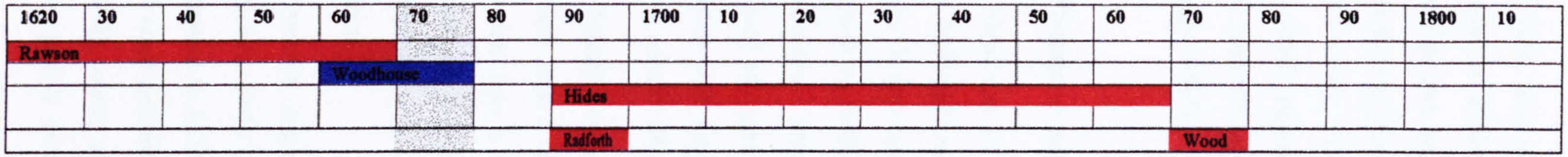
1658 and Hugh Rawson was a Searcher in 1661. Although they did not seem to have a smithy in 1672, the family's high profile attracted boys for training from a wide area geographically and from a wide range of backgrounds. Twenty of these apprentices took out their freedom, but because Norwood was such a small hamlet, there was little possibility of these boys remaining.

A small community such as Norwood could produce very few local apprentices. Only four boys appear in the apprenticeship records; three were Rawson boys who remained in Norwood, being trained by their fathers, and the son of Thomas Redford, a cutler, who went to a sicklesmith, no place given. In addition, Anthony Woodhouse, a scissorsmith, had three apprentices before 1672 but was missing from the Hearth Tax return. The Rawson cutlers in Norwood disappear in the 1690, to be replaced by two generations of cutlers called Ralph Hides. They took apprentices until the 1740s, but did not have the same appeal as the Rawsons.

sequence in Hearth Tax	Surname	First name	freedom	h	sm	craft
Brightside 34	Brownell	William	-	2	-	husbandman
53	Lambe	Edward	1644	1	1	cutler
Southey 81	Morton	Thomas	1652	3	1	scissorsmith
82	Bradberry	Lancelot	-	1	-	husbandman
83	Burrows	Richard	-	4	-	yeoman

Table 6.7 Identified taxpayers in Longley

Longley was to the northeast of Norwood. Five taxpayers have been identified, three being listed under Southey and two in the Brightside Bierlow returns. Hearth Tax data suggests Longley had about four or five small houses, with a similar number of people appearing in the apprenticeship records in any decade. The occupations of apprentices' fathers indicate the hamlet was concerned with agriculture and cutlery. Prior to the 1670s, only five boys from outside the hamlet were attracted to it, coming from nearby Raisin Hall, Grenoside, Ecclesfield, Worrall and Sheffield. However, only two of the thirteen Longley apprentices stayed in the hamlet even though there was a core family of cutlers, the Barnsleys. The Barnsley masters were 'missing' from the Hearth Tax returns, but there were two widows in Brightside (28 and 37), one having a smithy hearth and nearby, at Goddard Hill, was young Joshua Barnsley (F1670), a cutler with a smithy.



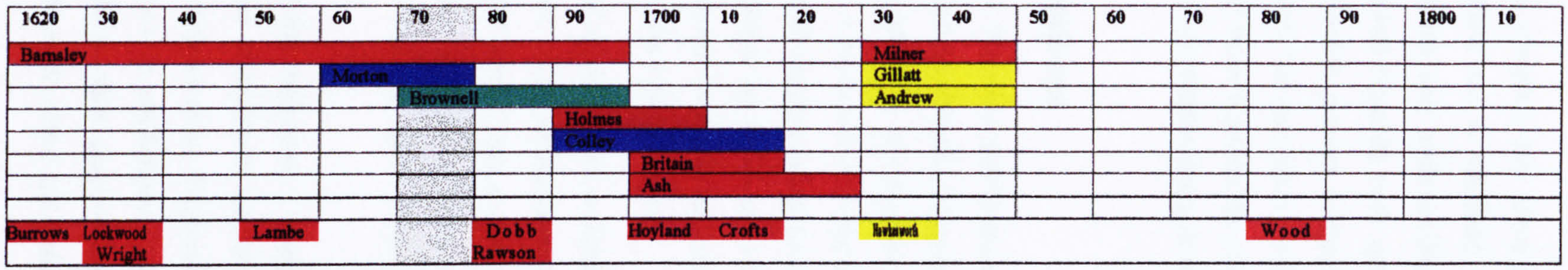


Figure 6.4 Profile showing the surnames of masters operating in Norwood (top) and Longley in the Brightside Bierlow and Southey Quarter Hearth Tax returns. red indicates cutlers; blue – scissorsmiths; yellow – filesmiths; green - awlbladesmith

The boys who left Longley travelled only short distances to other hamlets in Brightside Bierlow, Ecclesfield and to Sheffield. After 1672, Longley had a filesmith and an awlbladesmith and while awlblade manufacture disappeared from the records, an occasional filesmith took apprentices until the end of the 18th century. These two hamlets present contrasting communities. Both had very small number of masters, but one had a strong family tradition, attracting boys from a wide area, while more boys left the other hamlet to be trained, even though it had a core family, more masters and a diversity of crafts.

Pitsmoor and Grimesthorpe

The final pair of hamlets is Pitsmoor and Grimesthorpe. Only two taxpayers have definitely been identified for Pitsmoor; Henry Smith, a blacksmith with a smithy hearth and George Machon, scissorsmith, with three smithy hearths. Pitsmoor's profile is similar to Norwood, showing a single core family attracting apprentices. Two scissorsmith masters called George Machon, father and son, attracted ten apprentices between the 1630s and 1670s. These boys came from Pitsmoor and the neighbourhood, including two sons of a linen weaver and the son of another Machon, who was a husbandman.

The Hearth Tax sequence of entries given in Table 6.3 suggests Grimesthorpe had less than a dozen houses. Two middle-aged cutlers have been identified; only one was a freeman and neither had a smithy hearth. Interestingly, the owners of the four smithies were all women. Widow Harrt and Isabell Wilkinson, who was poor, had one each while Widow Wilkinson had two smithies.

The profile indicates 'missing' taxpayers. Joseph Hobson (F1666) had an apprentice 1669 – 1677, and scissorsmith Robert Wilkinson (F1655) took an apprentice in 1673. Neither appears in the Brightside Hearth Tax returns, though there were widows Wilkinson (10) and Hobson (72). Another Robert Wilkinson (F1644), cutler, appears in the Southey quarter taking apprentices in Wincobank for the period 1666-1672. The cutlers Beal and Green only took boys after 1672.

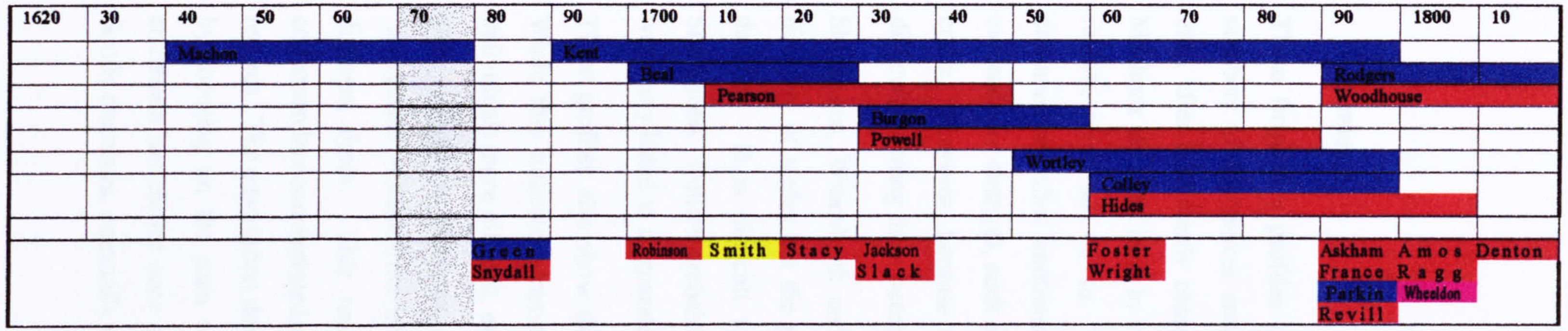


Figure 6.5 Profile showing the surnames of masters operating in Pitsmoor (top} and Grimesthorpe; red indicates cutlers; blue – scissorsmiths; yellow – filesmiths; pink – shearsmiths; grey - forkmakers

Summary

These Brightside profiles demonstrate the effect a core family could have on the numbers of apprentices and on fixing the manufacturing characteristics of the place, even after that family ceased to be involved. Several generations of Rawsons and Machons attracted boys to very small hamlets, but the Barnsleys of Longley, for some reason, could not do so. The early 17th century craft orientation of these small communities often continued into the 18th century, though the profiles do provide evidence for changes, such as an increased number of masters and a greater diversity of crafts. However, because these hamlets were so small, craftsmen would have had difficulty settling there because of the lack of housing and workshops.

Shiregreen, Wincobank and Grimesthorpe were larger communities with a greater diversity of trades but the profiles show several core families of cutlers existing for decades. It is difficult to explain the appearance of forkmakers, especially in Shiregreen. Cutlers probably made table forks from at least the late 17th century, but were only listed as a separate craft at the end of the 18th century.

These profiles also show the distribution of family names across these communities. While this indicates continued family involvement, it makes the identification of individuals more difficult, especially when the locations of apprentices and masters can vary. There is often an apparent movement of masters, not an actuality. The 'movement' results from imprecise locations being given to the Cutlers' Company at different times. This reconstruction of the Brightside Bierlow communities of craftsmen has concentrated on the masters using evidence only from the apprenticeship records. The description does not aim to identify individual masters but to show trends by focusing on the men working over decades. The attempt to locate 'missing' craftsmen has shown once again, that they were likely to have been living with other family members, especially widowed mothers.

Ecclesfield Parish

In this section, because so few taxpayers were cutlery craftsmen, the aim is to show how communities could expand, by attracting and retaining apprentices. The numbers of masters taking apprentices have been calculated and, together with the numbers of apprenticeships for each Hearth Tax area, graphs have been produced summarising the expansion of the communities. Each quarter of Ecclesfield parish shows different rates of expansion and it is suggested that the dominance of the nailmakers in Ecclesfield and Grenofrith had an adverse effect on the cutlery trades expansion in those areas.

General description

Scurfield based his reconstruction of Ecclesfield parish on the 1637 Harrison survey, showing that Ecclesfield and Chapeltown had open fields, while the boundaries of other fields were typical of land clearance and intakes.[1] Several streams flowed in or near the parish. The Loxley ran to the south of Wadsley, the river Don formed part of the western boundary of the Southey quarter and the Blackburn Brook flowed through the eastern part of Grenofrith to join the Don east of Brightside. The Charlton Brook and the Hartley Brook were tributaries of the Blackburn Brook, running to the north and south of Ecclesfield village respectively. The Don, Loxley and Blackburn Brook provided waterpower for several grinding wheels and the river Don also had water-powered forges. (See Appendix B) Scurfield refers to a rental for 'a wheele at Wadsley Bridge in Mr Copley's Iron workes'.[2] Field names such as 'Hammer ground' and 'Forge Meadow' along the river Don also indicate such activity and a furnace at Chapeltown produced pig iron. Ecclesfield parish also had coal pits and the Grenofrith quarter had considerable areas of woodland.

Scurfield's reconstruction would indicate that the 1672 taxpayers were metalworkers, agricultural workers, colliers, woodsmen plus other service trades and crafts. As well as the work by Scurfield, David Hey has produced several articles, etc. on the area of Ecclesfield, especially *The Rural Metalworkers of the Sheffield Region*.[3] A substantial part of this publication relates to nailmaking and identification here of several

taxpayers comes from his work. However, because only a few nailmakers were indirectly associated with the Cutlers' Company (as parents of apprentices), it has not been possible to locate many of them in the Hearth Tax return.

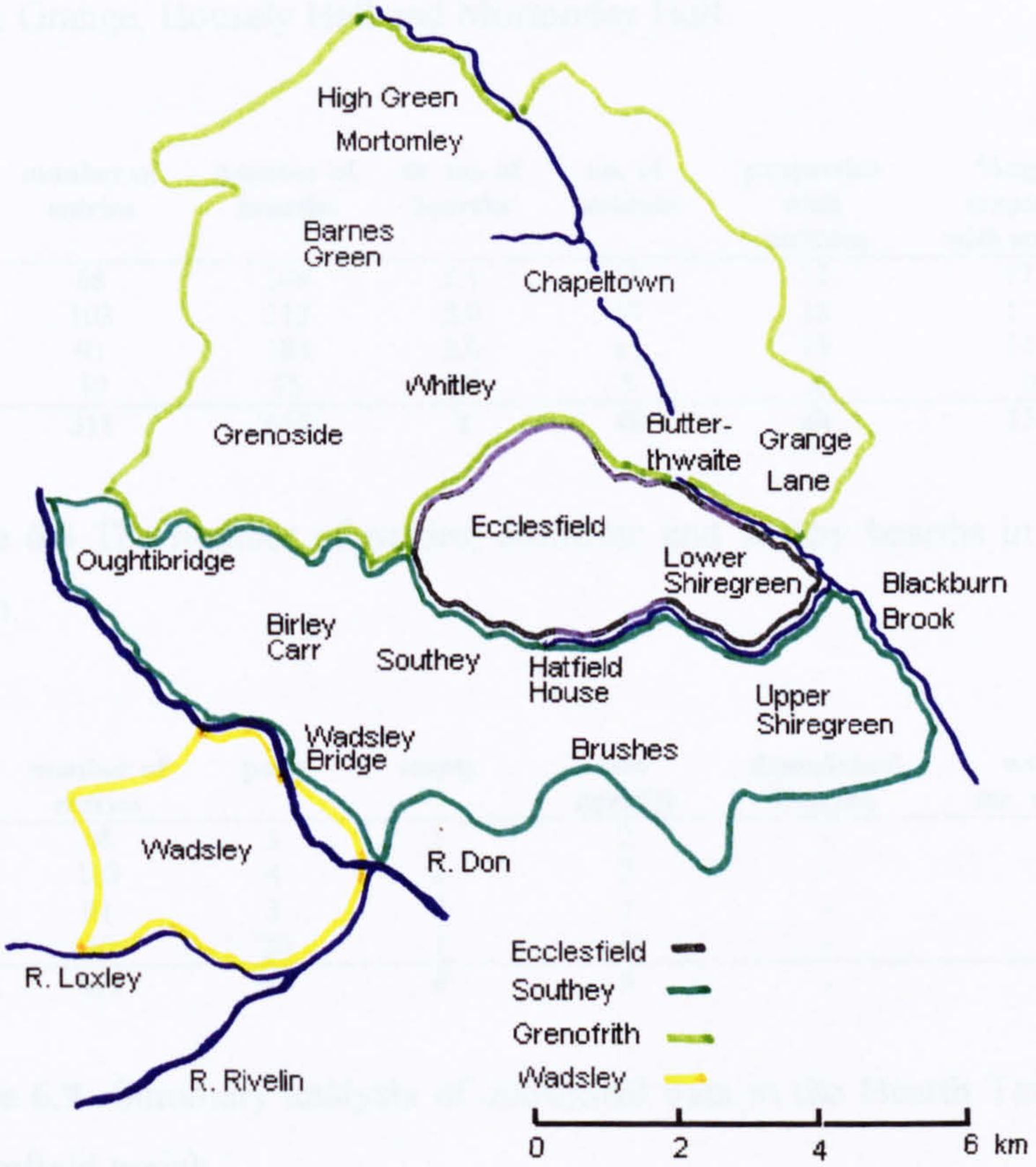


Figure 6.6 Outline map of the quarters of Ecclesfield parish.

Tables 6.9 and 6.10 are summaries of the quantitative data from the Hearth Tax returns for the four areas of Ecclesfield parish. This analysis shows that Ecclesfield and Grenofrith had the most smithy hearths, though no one had more than one. All the areas had several women taxpayers and Wadsley seems to have been especially poor,

with 40% of its taxpayers listed as such. As stated above, this is nearer to the generally accepted proportion and may indicate more accurate recording here with under-recording elsewhere. Twelve men had the title of 'Mr', including Mr Wright, the vicar of Ecclesfield and Mr Robert Greene at Ecclesfield Hall. There were several halls in Ecclesfield parish, particularly in Grenofrith, which had Whitley Hall, Barnes Hall, Thundercliffe Grange, Housely Hall and Mortomley Hall.

Taxation area	number of entries	number of hearths	av. no. of hearths	no. of smithies	properties with smithies	%age of taxpayers with smithies
Ecclesfield	68	149	2.1	12	12	17.6
Grenofrith	103	212	2.0	18	18	17.5
Southey Soke	91	183	2.0	13	13	14.3
Wadsley	50	75	1.4	5	5	10
totals	**311**	**619**	**2**	**48**	**48**	**15.4**

Table 6.8 The number of entries, domestic and smithy hearths in Ecclesfield parish.

Taxation area	number of entries	poor	empty	new hearths	demolished hearths	women inc. widows
Ecclesfield	68	3	1	2	-	10
Grenofrith	103	4	2	2	-	13
Southey Soke	91	3	2	1	-	9
Wadsley	50	20	1	1	-	12
totals	**311**	**30**	**6**	**6**	**-**	**44**

Table 6.9 Summary analysis of additional data in the Hearth Tax returns for Ecclesfield parish.

Because the communities of identified craftsmen were so small, the aim in this section is to show the varied expansion in the trades during the following century. The numbers of apprentices, freemen and non-freemen overall increased at a steady rate, but individual areas present different characteristics. Using the Hearth Tax returns as a moment in time when the number of craftsmen can be fairly accurately given, then it is possible to show how particular communities developed. Unlike Attercliffe where family continuity strengthened the community, the impression gained from the records for Ecclesfield parish is one of scattered poorer cutlers, with little opportunity to

specialise because smithy hearths were rare, meaning that any non-forger would have to walk long distances for a supply of blades. Similarly, there were few water-powered grinding wheels until the later 18th century and finally the craftsmen were some way from suppliers and the main markets in Sheffield town.

Information in the apprenticeship records has been used to construct the following graph showing the numbers of local and 'outsider' apprenticeships to Ecclesfield parish masters. 'Possible apprenticeship' dates have been computed for freemen without these details. The numbers of apprentices being trained in an area has been taken as an indication of the strength and vigour of that community, reflecting the numbers of available masters.

The graph shows a general trend upwards but some of the fluctuations in the graphs can be accounted for by the internal activities of the Cutlers' Company. The dips in the 1720s to 1740s correspond to poor recording of apprenticeships, rather than population trends or trade activity. The peak in the 1790s was caused by the Cutlers' Company opening its doors to anyone who wished to pay for a freedom. In 1814, the Cutlers' Company finally lost its powers over the registration of apprenticeships.

From these graphs, it is clear that there was a similarity between the Ecclesfield and Grenofrith quarters and Southey and Wadsley. Ecclesfield and Grenofrith seem to have a stagnant community for most of the 17th century. However, Southey, including some of the craftsmen in Shiregreen and Wincobank, was generally expanding in the mid-18th century. The dip in the 1720s, caused by poor record keeping at the Cutlers' Company, was followed by an increased rate of expansion that coincided with forkmakers and filemakers being recorded in the area. Wadsley presents a confusing picture in that there were few craftsmen in the 1672 Hearth Tax returns, but the few masters appear to have attracted many apprentices. One can speculate that the building of several water-powered grinding wheels in the vicinity had an effect.

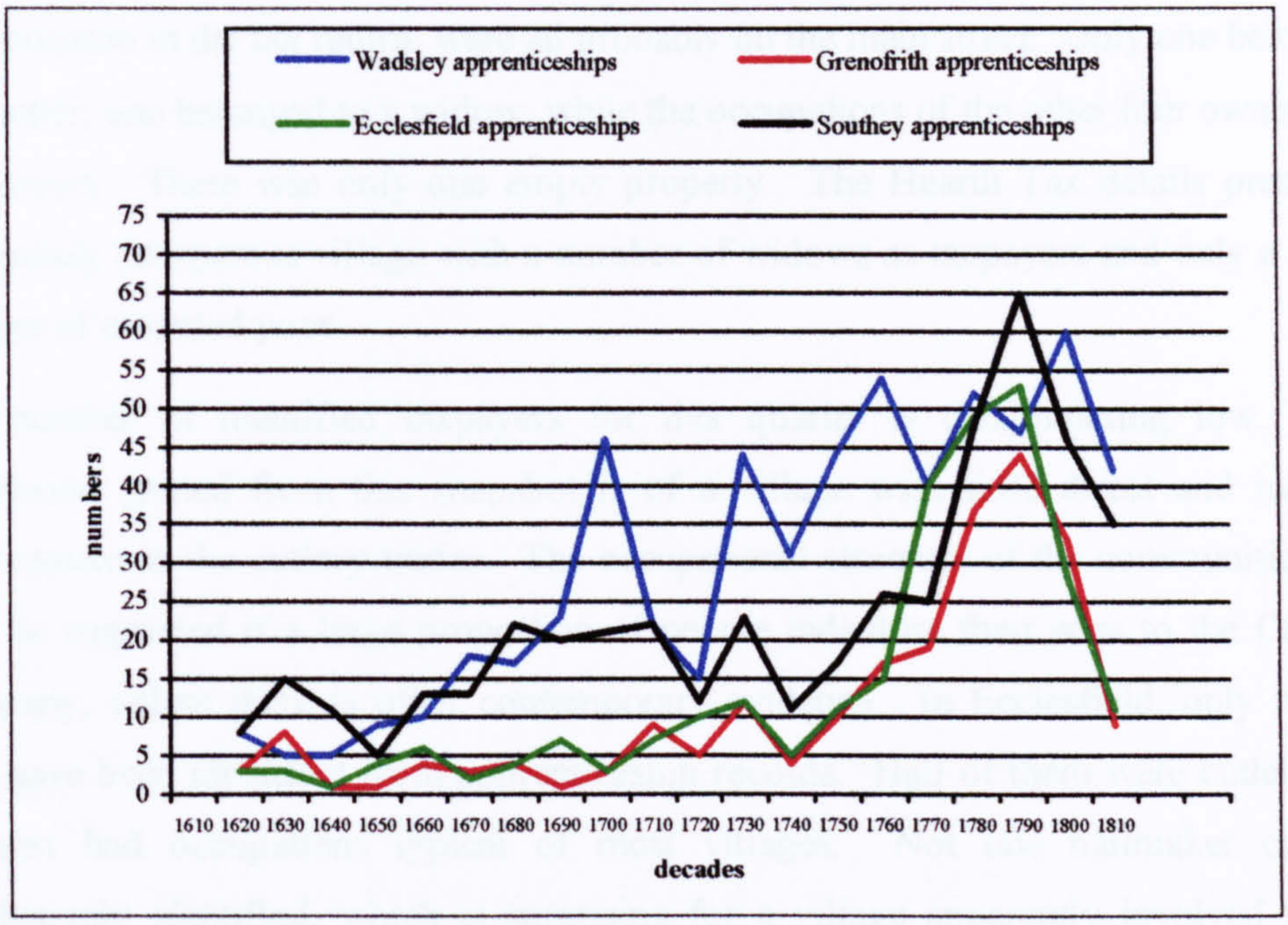


Figure 6.7 Numbers of apprenticeships to Ecclesfield parish masters.

Ecclesfield Quarter

The Ecclesfield quarter included Ecclesfield village at the centre of the parish and the small hamlets of Hartley Brook and Lower Shiregreen. The parish church stands at the north end of the village with the hall and vicarage nearby. In 1672, houses clustered near the church and along the High Street running south toward Sheffield, with the open fields surrounding the village to the west, south and east and common land to the north. The tax return began with Mr Robert Greene at the Hall, followed by Mr Wright at the Vicarage and from the layout of the village, the Collectors probably visited the houses near the church, and then went down the main street. There were approximately fifty-six dwellings in Ecclesfield village, because the 57th entry on the tax list has been located at Hartley Brook and the rest of the list is for Shiregreen.

The properties at the start of the tax list had five, six and seven hearths, suggesting the larger properties were near the church, while the majority of houses on the main street had only one and two hearths. Six smithies were taxed in Ecclesfield village and from

their position in the tax return, were all probably on the main street. Only one belonged to a cutler, one belonged to a widow, while the occupations of the other four owners are not known. There was only one empty property. The Hearth Tax details present a moderately prosperous village with a number of widows as taxpayers and only a small number of recorded poor.

The number of identified taxpayers for this quarter is disappointing low. The impression gained from this snapshot is of a village with little direct and indirect involvement in the cutlery trades. The occupational structure of the communities can only be suggested if a large proportion of people indenture their sons to the Cutlers' Company, unless there is other contemporary evidence. In Ecclesfield, only twelve men have been identified from apprenticeship records. Half of them were cutlers and the rest had occupations typical of most villages. Not one nailmaker can be conclusively identified, which is surprising for a village apparently involved in the trade and suggests that they had little interest in the cutlery trades. What is also surprising is that, in 1672, only one husbandman has been identified from the Cutlers' Company records.

Fifteen cutlers have been identified in 1672, but only five had smithies, three being in Shiregreen. Another smithy owner was Hugh Millar [Mellor], a farrier and it is assumed that the other six smithies belonged to nailmakers. Apprenticeship records show eight masters were operating over the previous fifty years but had trained only seven boys between them and this small community had little continuity of core cutler families

smithies		cutlers	
women		others	

Table 6.10 The colours used in the distribution graph in Figure 6.8

The 'other' identified occupations were: 2 husbandmen and one each of the following: butcher; farrier; grocer; tailor; tanner; vicar

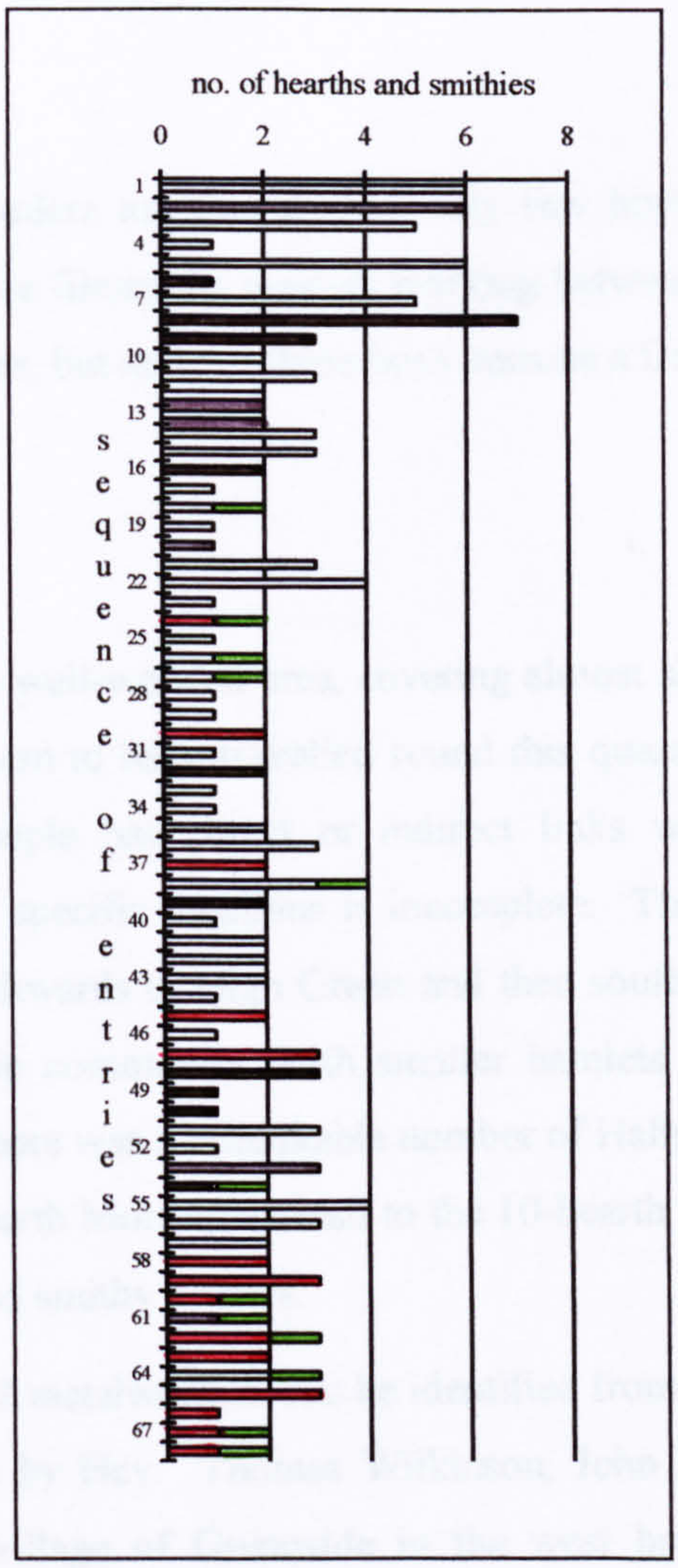


Figure 6.8 The distribution of domestic hearths, smithies and occupations in the Ecclesfield quarter

Even though local interest in the cutlery trades gradually increased, the graphs show little activity until the mid-18th century when craftsmen diversified into filemaking and forkmaking. John Parkin of Attercliffe was the earliest recorded filesmith master here and his apprentice, John Andrew, the son of a Whiston groundminer, (collier) became a freeman in 1724 and established a family tradition in the trade in Ecclesfield. Three masters called Andrews trained fourteen apprentices, one of them being Robert Cawood (F1746). For the next sixty years, one or more Robert Cawoods trained a further eighteen apprentices. This compares dramatically to a century earlier, when all

the Ecclesfield cutlers together trained very few boys. Similarly, unlike the earlier cutler masters, five filesmiths masters working between 1776 and 1802 each trained a son of local nailers, but none of these boys became a freeman.

Grenofrith

Grenofrith was a well-wooded area, covering almost all the northern half of the parish. The assessors seem to have travelled round this quarter in a clock-wise direction, but because few people had direct or indirect links with the Cutlers' Company, the identification of specific locations is incomplete. The route seems to have been one wide sweep northwards to High Green and then south to Chapeltown. Grenoside was the only sizeable community, with smaller hamlets at Mortomley, High Green and Chapeltown. There was a remarkable number of Halls in Grenofrith - five in all - from the smaller 5-hearth Mortomley Hall to the 10-hearth Barnes Hall. Grrenofrith had the most unidentified smithy owners.

Hardly any 1672 metalworkers can be identified from the Cutlers' Company records or from the works by Hey. Thomas Wilkinson, John Walker and William Smith were cutlers in the village of Grenoside in the west but only Wilkinson had a smithy. Richard Beete and Edward Hague were nailers, living in the eastern part of Grenofrith. Both had smithies and it is likely that most of the unidentified smithies in this part of the parish also belonged to nailmakers. While this is a disappointingly low number of identified craftsmen, it perhaps supports the view that the two worlds of metalworking - nailmaking and knifemaking - were exclusive. Evidence suggests little cutlery-making activity in the Grenofrith quarter as only four masters took seventeen apprentices during the whole of the 17th century. Nailers seem to have kept their sons out of the cutlery trades, but it is impossible to know whether cutlers sent sons to nailers, since the trade was largely unregulated.

smithies		others	
women		cutlers	

Table 6.11 The colours used in the distribution graph in Figure 6.9

'Other' occupations include 4 yeomen; 2 husbandmen; 2 nailers; 2 tanners; one of the following: basket maker; collier; cooper; innkeeper?; labourer?; miller; wheelwright.

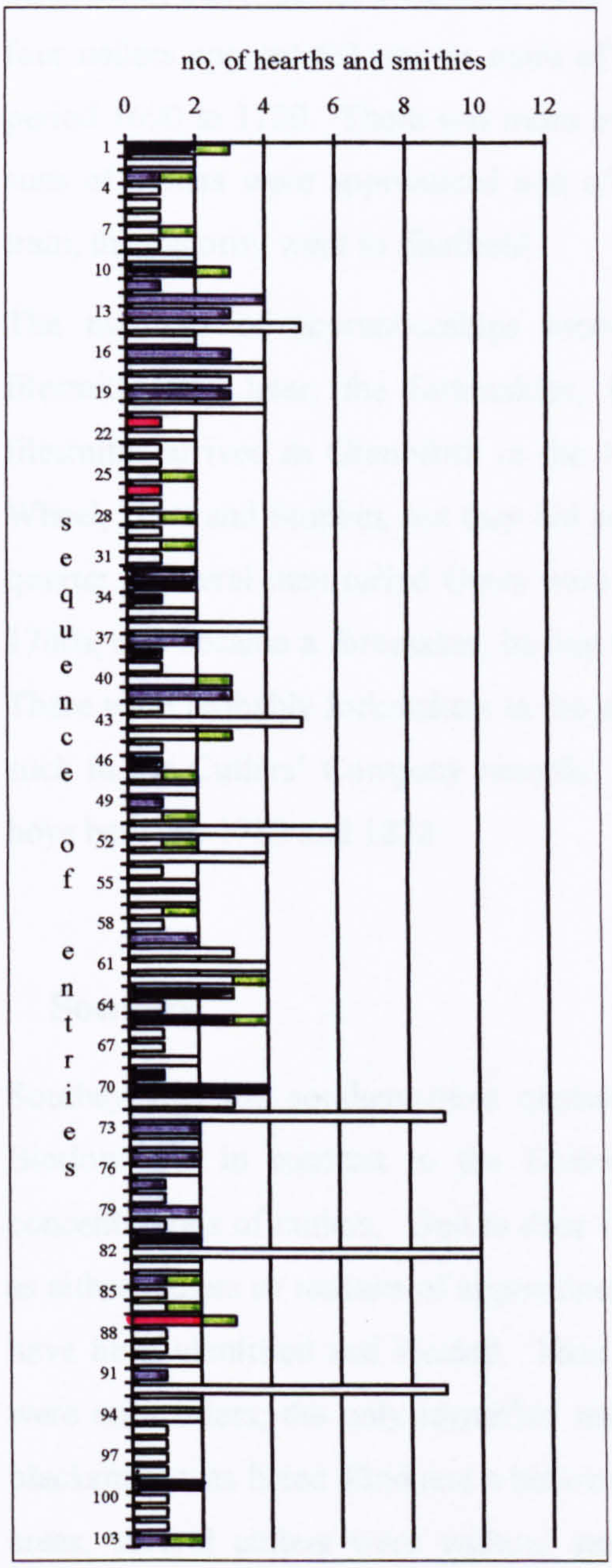


Figure 6.9 The distribution of domestic hearths, smithies and occupations in Grenofrith.

Like the Ecclesfield quarter, Grenofrith had a small number of cutlers in the 17th century with two master scissorsmiths living there in the early 1700s. Few local boys wished to train either at home or elsewhere - probably the effect of the dominant nailmaking trade, because very few sons of nailmakers entered the cutlery trades. Only four nailers apprenticed one or more of their sons to any of the cutlery trades in the period 1690 to 1720. There was more interest at the end of the 18th century, fourteen sons of nailers were apprenticed and of these, only one boy stayed in Grenofrith to train, the majority went to Sheffield.

The numbers of apprenticeships increased after the 1720s, especially after the filesmiths and later, the forkmakers, became part of the community. The first filesmiths arrived in Grenofrith in the 1750s, living in the hamlets of Butterthwaite, Wheel, Hirst and Stubbin, but they did not come to dominate the area as in Ecclesfield quarter. Several men called Oates were filesmiths in the 1740s and 1750s and in the 1780s, one became a forkmaker, having been trained by John Sanderson at Grenoside. There were probably forkmakers in the area before this time, but they do not appear as such in the Cutlers' Company records. The Grenoside forkmakers trained thirty-six boys between 1789 and 1812.

Southey

Southey was the southern-most quarter of the parish and bordered on Brightside Bierlow and in contrast to the Ecclesfield and Grenofrith quarters, had sizeable concentrations of cutlers. Due to their close involvement with the Cutlers' Company, as either fathers or masters of apprentices, half the taxpayers and all the smithy owners have been identified and located. Most were cutlers, but three smithy hearth owners were non-cutlers; the only identified nailer's smithy was second in the tax returns; a blacksmith was listed 42nd and a bellows maker was 64th in the sequence. As in other areas, several cutlers were without smithies and the sequence of entries seems to suggest they were possibly grouped around a cutler with a smithy, though this might not have been a physical actuality.

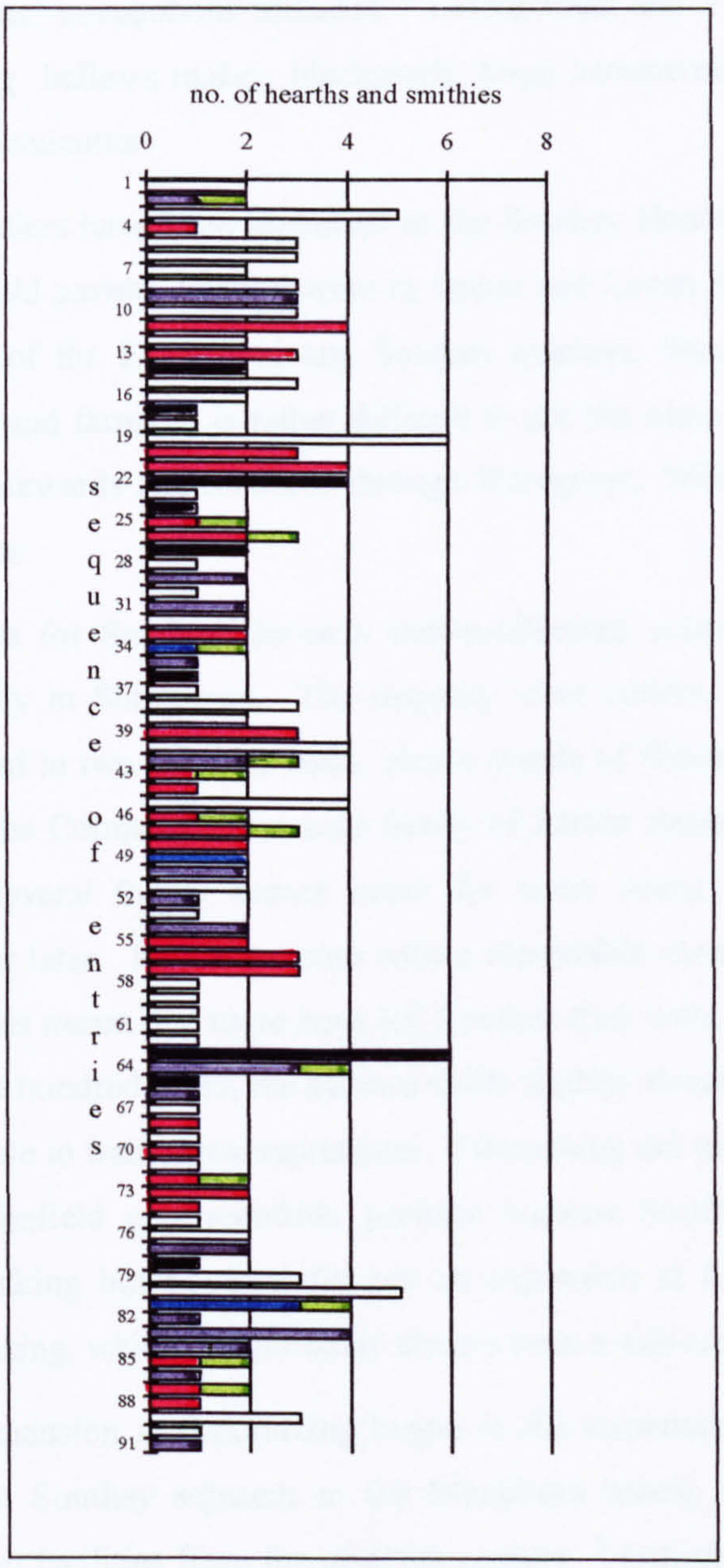


Figure 6.10 The distribution of domestic hearths, smithies and occupations in the Southey quarter

smithies		scissorsmiths	
women		others	
cutlers			

Table 6.12 The colours used in the distribution graph in Figure 6.10.

The 'other' occupations included 7 husbandman and 2 yeomen plus one each of the following :bellows maker; blacksmith; forge hammerman; ironmonger; miller; nailer; slater; woodcutter.

More cutlers have been identified in the Southey Hearth Tax return than elsewhere in Ecclesfield parish. Several were in Upper and Lower Shiregreen, which straddled the borders of the Ecclesfield and Southey quarters, though in this rural area of small hamlets and farms, it is rather difficult to see the route of the assessors, who possibly went backwards and forwards through Shiregreen, Wincobank and Southey on several occasions.

The data for Southey shows a well-established community of cutlers before 1700, especially in Shiregreen. The majority were cutlers, only three scissorsmiths being identified in two hundred years, plus a couple of filesmiths after the 1680s, when they joined the Company. One core family of Parkin appears in the records for 150 years, while several family names occur for some years; disappear from the records to reappear later. However, even with a reasonable number of masters, local interest in the trades meant that more boys left Southey than were trained in the community. Over the next hundred years, the balance shifts slightly towards filemaking and more masters were able to train more apprentices. Filemaking did not come to dominate the scene as in Ecclesfield or Grenofrith, perhaps because Southey had a stronger tradition of knifemaking but Southey did see an expansion at the end of the 18th century into forkmaking, which had probably always been a sub-craft of the cutlers.

The expansion in forkmaking began in the community of Blackburn, on the eastern edge of Southey adjacent to the Blackburn brook, which had some water-powered grinding facilities from the mid18th century. [4] (Appendix B) Very few craftsmen and apprentices were recorded there until the late-18th century when forkmaking appeared as the dominant trade. Only two master cutlers were recorded in Blackburn in the 1680s to 1710s, but a great increase came in the 1780s, after which time eighty apprenticeships were registered to approximately twenty-two masters in Blackburn, two-thirds being to forkmakers.

Wadsley

Wadsley was the south-west portion of the parish and lay mainly between the rivers Loxley and Don. It is not possible to place any taxpayer at specific locations, because masters and parents simply stated they were from Wadsley. From the Hearth Tax returns and the apprenticeship records, Wadsley quarter appears poorer than other parts of the parish and had a relatively high proportion of women as heads of households. There were no gentlemen or large houses.

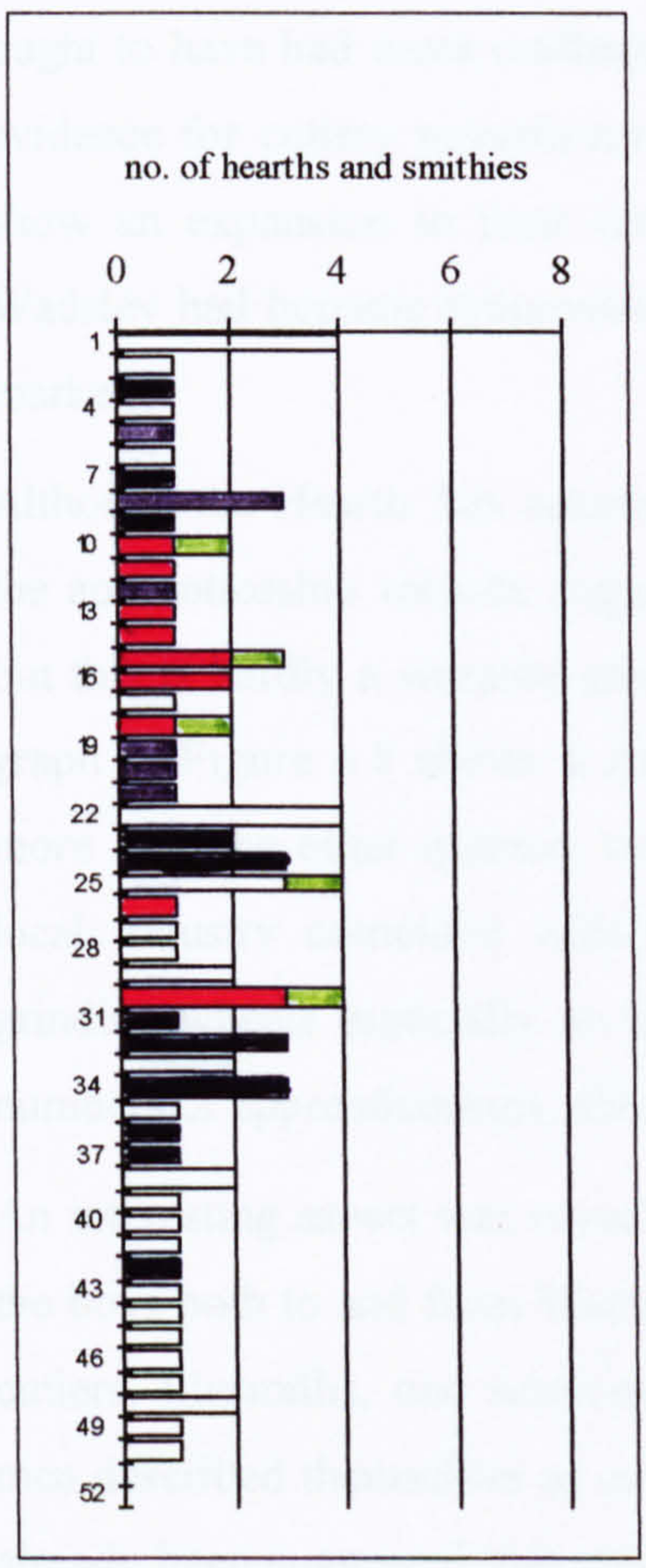


Figure 6.11 The domestic hearths, smithies and occupations in the Wadsley quarter.

smithies cutlers women others

Table 6.13 The colours used in the distribution graph in Figure 6.11.

The 'other' identified occupations included a carpenter, cooper, feltmaker, husbandman and two tailors.

The small community of eight cutlers had four smithy hearths between them. These craftsmen, however, were fortunate in the proximity of grinding wheels on the rivers Loxley and Don as well as the iron forging capacity at Wadsley Forge and Mousehole. If such facilities influenced the development of cutlery-making, then perhaps Wadsley ought to have had more craftsmen. Although the 1672 returns provide relatively little evidence for cutlery manufacture, the apprenticeship records for the Wadsley masters show an expansion in their numbers in the 18th century and by the 19th century, Wadsley had become synonymous with the manufacture of cheaper knives for a mass market.

Although the Hearth Tax returns for Wadsley indicates a community of eight cutlers, the apprenticeship records suggest at least ten more cutlers lived there prior to 1672, but this is hardly a sizeable group in a community of over two hundred people. The graph in Figure 6.8 shows a steady increase in the number of apprenticeships, often more than the other quarters together. During the 18th century, an expansion in the local industry coincided with the building and enlargement of the water-powered grinding wheels especially on the River Rivelin. The masters attracted an increasing numbers of apprenticeships, about a quarter were local boys

An interesting aspect was revealed during the search of the apprenticeships records for the boys both to and from Wadsley. In the 18th century, fathers' occupations included cutlers, filesmiths, one scissorsmith, one scythesmith and one blacksmith, but seven men described themselves as cutlergrinders, all but one working after the 1770s. It has already been suggested that some men were specialising in grinding and the proximity of the water-powered grinding wheels might be a factor here. As well as the cutlergrinders, four men were 'grinders' and three more were described as

knifegrinders. Unfortunately, it is not possible to trace the rise of such a group since the term 'grinder' is only recorded from the 1770s - apart from scythegrinders, that is. From the mid-17th century, the Wisewood site on the River Loxley had been involved in forging and scythegrinding and the probate inventory of William Blythe, a Norton scythesmith, listed grind stones at Loxley in 1665. Joseph Barnes was a scythegrinder in the early 18th century and another scythegrinder was recorded in the 1780s. These men and other grinders were outside the Cutlers' Company control. In the 1780s, one parent was a tool grinder and at the beginning of the 19th century, five fathers were described as sawgrinders. It is likely that the sawgrinders worked with the scythegrinders, since they would both require large diameter wheels.

Summary

In 1672, Ecclesfield parish had few cutlery craftsmen, so a detailed description of the manufacturing activities of these areas would achieve little. However, there is evidence for the diversity and expansion of the trades during the 18th century. The tables and figures summarising the data from the Hearth Tax returns for Ecclesfield clearly demonstrate the value of the Cutlers' Company records as a source for identifying the occupations and location of the taxpayers. Most of smithy hearth owners have been located in areas with a close involvement in the cutlery trades, such as Southey, but less than half of the smithy owners in the Ecclesfield quarter and none in Grenofrith can be identified from this source. These areas also had fewer identified cutlery craftsmen and it is assumed therefore, that the majority of the taxable smithies belonged to nailmakers. Very few of these men appear in the Cutlers' Company records as parents of apprentices.

In the 17th century, many fathers were interested in apprenticing their sons in the cutlery trades, but with few local masters, most boys had to leave their homes, even if they only went to the next township. By the 18th century, numbers of masters increased accommodating an increased number of apprentices, so that most of the Ecclesfield quarters saw a slow down of the outward movement of boys. The trade

structures changed quite markedly in some areas, with the increase in numbers of filesmiths and forkmakers. Ecclesfield and Grenofrith quarters especially saw a change as the file trade came to dominate. Grenoside became known as a centre for filemaking in the 19th century and filecutting workshops (unused) survived to the end of the 20th century.[5] Most of the filesmiths' names were local and only a few 'outsiders' moved into the area.

The evidence from the Hearth Tax returns suggests that the Wadsley quarter was a poor, rural area centred on Wadsley village. The area saw a gradual expansion in the cutlery trades, both in apprenticeships numbers and available masters. It had a very small community of craftsmen, with little forging capacity, but with access to an increasing number of nearby water-powered grinding wheels. The importance of the nearby water-powered grinding is perhaps demonstrated in the recording of the specialist grinders in the apprenticeship records after the mid-18th century. Prior to this, little evidence is available to suggest that earlier craftsmen specialised in grinding, apart from the scythegrinders. Other metalworkers were also found in small numbers, including the filesmiths, the occasional scissorsmith and the scytheginders. Occupations of fathers of apprentices reveal men who were employed at the furnaces and forges as forgemen. A hammerman at Wadsley forge, an ironfounder and ironmaster at Wisewood were all recorded when they apprenticed their sons.

Throughout the 19th and 20th centuries, Wadsley became synonymous with cheap and poorly made knives, especially pocket-knives, which were known as 'Wadsley flatbacks'. This term refers to the backs of the pocket-knives which were ground flat to disguise poor assembly.

Conclusions

This chapter has explored the characteristics, the continuity and changes in the cutlery trades in the hamlets and villages of the rural areas to the north and east of Sheffield town. The use of the records of the Cutlers' Company and the published work of

Scurfield and Hey has resulted in the identification of many people, enough to indicate the probable route of the assessors and the location of the smithy hearths. This part of Hallamshire included metalworkers outside the control of the Cutlers' Company and the presence of the nailers in 1672 is indicated by the numbers of smithy hearths, which could not be identified. This analysis has revealed that most cutlers lived in small communities and that in Grenofrith and parts of Ecclesfield, there was apparent competition from nailers. The evidence suggests that these nailmaking areas possibly slowed the spread of cutlery making, the nailers being able to train boys without the formality of the regulated apprenticeships through the Cutlers' Company.

The villages and hamlets in Brightside and Ecclesfield provide examples of communities influenced by core families. Because the number of masters was small, detailed reconstruction of each community would not have added much to the understanding of the trade organisation. Instead, the data shows that fewer families were working in the communities before 1700, but a marked expansion occurred after the 1750s, often coinciding with an increase in the use of waterpower for grinding. The data has also been used to show the craft groupings, the numbers of masters and the expansion of trades in the different areas.

One particular area of Ecclesfield had a thriving community of cutlers and continued to increase in the eighteenth century. Southey, including Shiregreen and Wincobank on the border between Ecclesfield and Brightside, was dominated by the cutlers, but the community expanded and diversified, becoming a centre for forkmaking and filemaking. Wadsley in 1672, presents a picture of a small, poor area with few cutlers and fewer smithy hearths, but which expanded rapidly towards the end of the 18th century, possibly influenced by the increased availability of water-powered grinding, specialising in cheaper cutlery, especially pocket knives

The chapter has demonstrated the important role that the records of the Cutlers' Company play in interpreting the information in the Hearth Tax returns and the combined evidence has been used to proceed from the base-line of 1672 and reconstruct these communities over a period of two hundred years.

[1] Scurfield, G., '17th century Sheffield and its environs', *Yorkshire Archaeological Journal*, 58 (1986) 147-171

[2] ibid. p.167

[3] Hey, D., *The Rural Metalworkers of the Sheffield Region* (Leicester 1972) 31-49

[4] Miller, W.T., *The Water-Mills of Sheffield* (Sheffield 1949) 94-100

[5] Turner, C.A., *A Sheffield Heritage* (Sheffield 1978) 44

Chapter 7
Lower and Upper Hallam and Ecclesall Bierlow

These three Townships were to the west of Sheffield town and had hamlets and farms, with open fields in Lower Hallam and extensive woodlands in Ecclesall Bierlow. An important feature of these Townships was the availability of water power from three of Sheffield's rivers. The rivers Rivelin, Porter and Sheaf provided an increasing number of sites along their lengths, especially for water-powered grinding.

Lower Hallam

General description and analysis

The Township of Lower Hallam was geographically complex. Although it was mainly on the northward-facing slopes of the Rivelin valley with hamlets at Crookes, Walkley and Cloughfields, the Township also had a detached part south of the river Sheaf with the village of Heeley and hamlet of Newfield Green. The Township boundaries were further complicated by the open fields at Crookes as the boundary between Lower Hallam and Ecclesall Bierlow wove in and out of individual strips. Crookesmoor was common land and Heeley had a small common, together with small open fields.

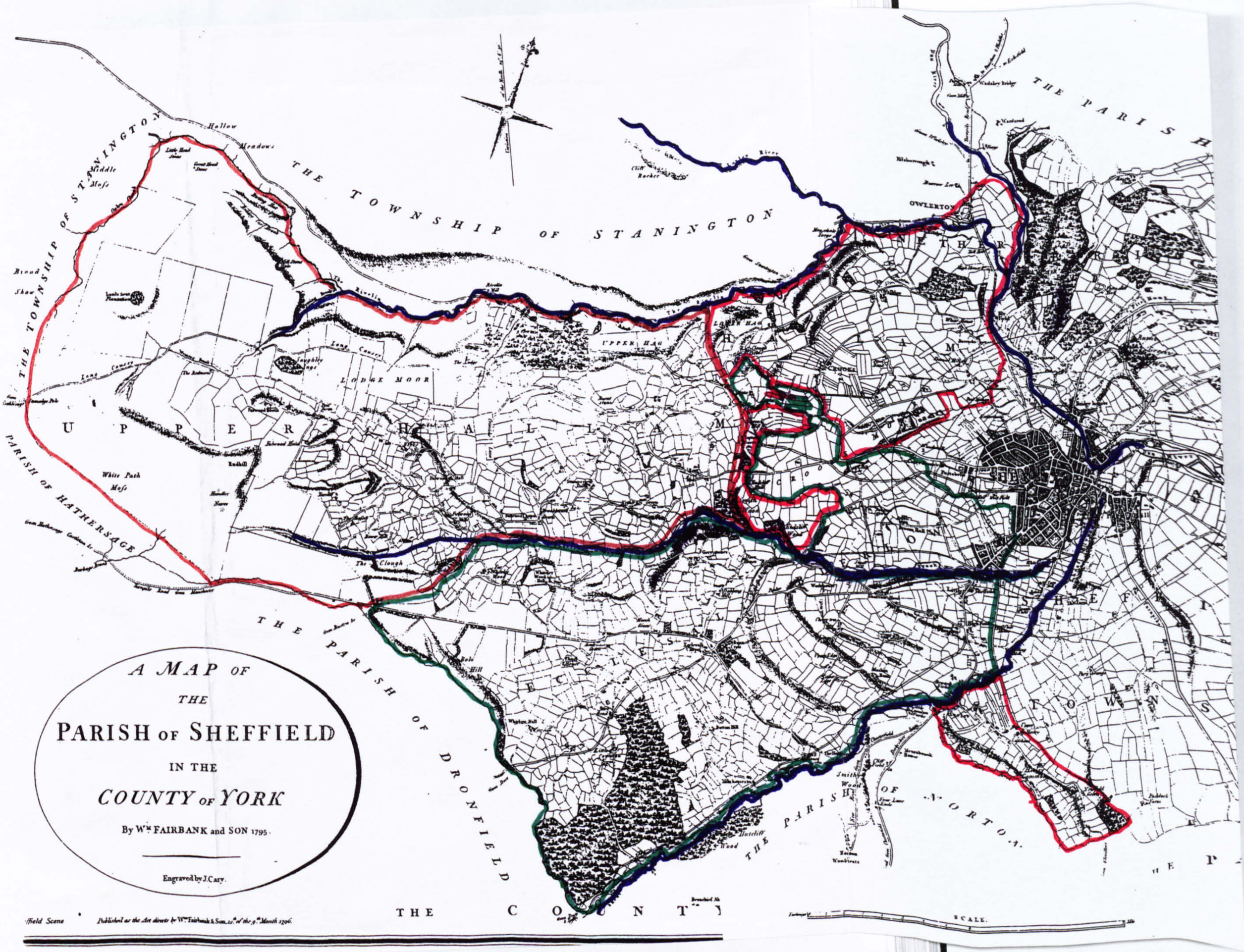


Figure 7.1 Map of Ecclesall, Upper and Lower Hallam Townships, Fairbank, 1796

number of entries	73	poor, with or without certificates	7
number of hearths	132	empty	4
average no. of hearths	1.7	new chimneys	4
no. of properties with smithies	16		
no. of smithies	19	demolished chimneys	-
%age of taxpayers with smithies	22	widows & other women	7

Table 7.1 Quantitative analysis of the 1672 Hearth Tax return for Lower Hallam

The analysis of the entries for this part of Hallamshire reveals a high proportion of smithy hearths. Twenty-two per cent of properties had forging facilities, although most owners had only one smithy. Most have been identified as belonging to the metalworkers, but as elsewhere, a similar number of identified craftsmen did not have smithy hearths. Unlike Brightside Bierlow, women did not own significant numbers of smithies.

From the evidence of the graph in Figure 7.2, the assessors seem to have gone round the northern part of the Township at Crookes and Cloughfields, possibly because the Constable, Francis Spooner, was a husbandman at Crookes. They then concentrated on Heeley and Newfield Green, before returning to the Crookes area, Walkley, nearby Steel Bank and the hamlet of Owlerton, close to the confluence of the Loxley and Don. This makes it difficult to see any clear pattern or grouping of craftsmen, but most cutlers were living in Heeley and in the hamlets around Crookesmoor. Several scythesmiths, who were not members of the Cutlers' Company at this time, were located at Heeley which was close to the main scythemaking area of Norton/Woodseats. One shearsmith and four scissorsmiths have been identified, but no filesmith or awlbladesmith. The men in this assessment area were fortunate in their access to water-powered grinding on three rivers - Heeley men could walk down to the Sheaf valley and the Crookes/Walkley men had access to the Rivelin valley and the confluence of the Loxley, Rivelin and Don at Owlerton.

Distribution of smithy hearths and craftsmen

The sequence of entries for this Township is presented in graphic form in Figure 7.2. There were few large houses and no one was described as 'Mr', however, the 73rd entry stands out, by having three smithy hearths. This was High House, owned by George Bamforth who, although he described himself as a scissorsmith, also had considerable property. The Bamforth family were later Lords of the sub-manor of Owlerton and significant landowners for the next two hundred years. The Stacey family were Lords of Owlerton in 1672 and Robert Stacey was taxed for seven hearths at Owlerton Hall. [1]

The graph in Figure 7.2 shows the mixed properties in the Township, but Owlerton had houses with more domestic hearths. Two smithy hearths were taxed on their own, without an adjacent entry for domestic hearths. Enoch Holland, a poor scythesmith of Heeley, (38th) was taxed for a smithy. He appears nowhere else in the Hearth Tax list and possibly represents one definite example of the under-recording of poor people. Perhaps he was exempt from payment, being listed as 'poor' and his domestic hearth(s) were omitted. Why then was his smithy included ? Did this imply it was not near his house, or that he was resident with another family ? The surname Holland occurs several times in the Hearth Tax, but all to the east of Sheffield and no other in Lower Hallam.

The second case, entry 72, was for a smithy owned by a non-resident cutler, Malin Sowerby (Sorby or Sorsby) with an additional note that it was ' for a wheele chimney newly built'. It is possible this was Upper Slack Wheel, which was across the river from High House. (See Appendix B3, Slack wheel is shown as site number 26 on the river Loxley.) In a valuation of c.1660, 'the wheels were to be put in good repair'.[2] Although it is listed here as a smithy hearth, it may have been a hearth for heating the grinding hull. Malin Sowerby was taxed for fifteen domestic hearths and a smithy in Sheffield First Part. He also owned an empty house with one hearth in Brightside Bierlow.

smithies		scythesmiths	
cutlers		scissorsmiths	
others		women	

Table 7.2 The colours used in the distribution graph in Figure 7.2.

Other identified taxpayers included : a balacksmith, clothier, mason, pointer, tanner, woodcollier, woodcutter, a yeoman and six husbandmen

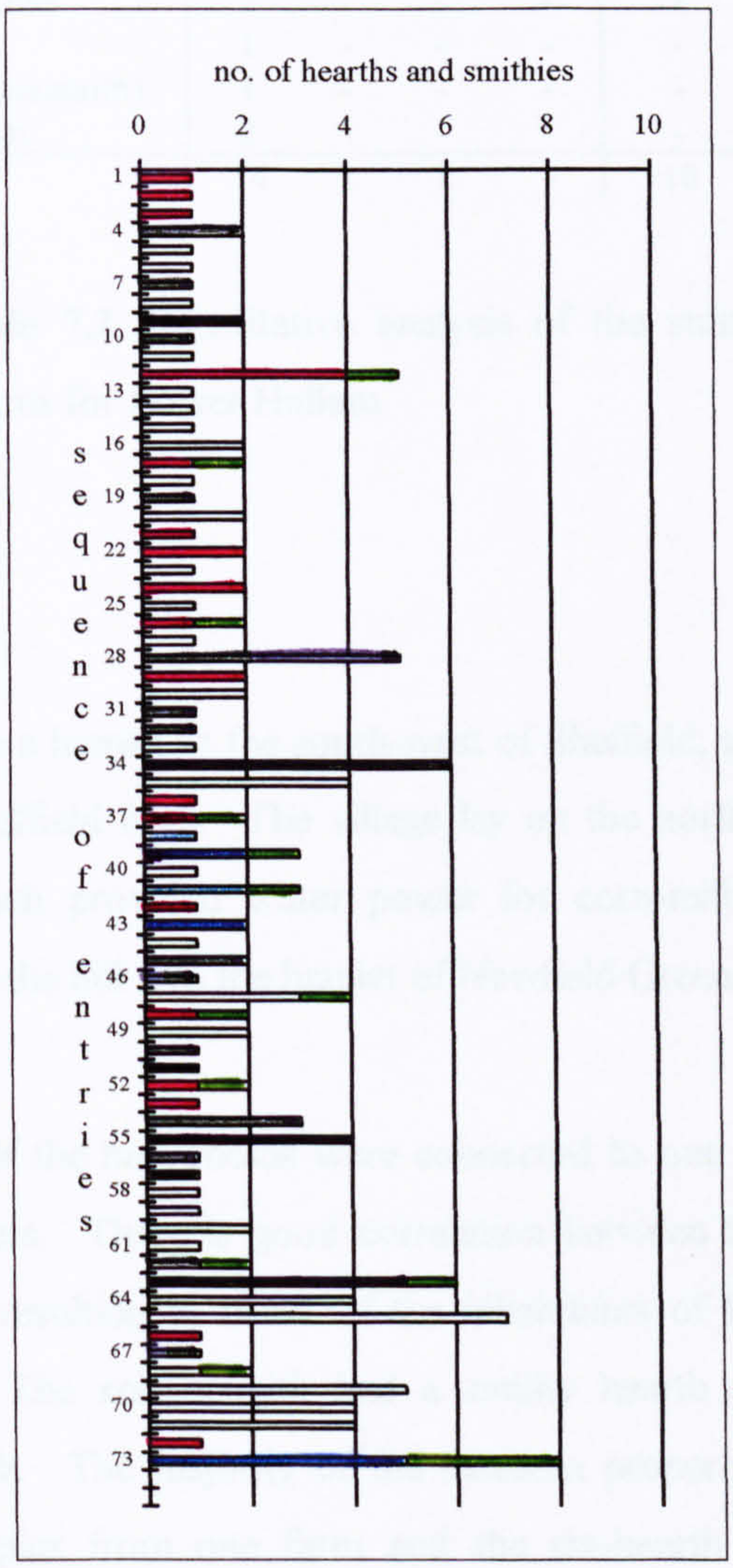


Figure 7.2 The distribution of domestic and smithy hearths and occupations in Lower Hallam.

The identification of the smithy hearth owners once again demonstrates the value of the apprenticeship records. It also shows that craftsmen, particularly cutlers, did not need their own smithy hearth in order to make a living.

	smithies				craftsmen		poor	
	1	2	3	4	with	without	with	without
cutlers	6	-	-	-	6	12	1	-
scissorsmiths	1	-	1	-	2	1	-	-
scythesmiths	2	-	-	-	2	-	1	-
women	1	-	-	-	-	-	-	1
other (blacksmith)	1	-	-	-	-	-	-	-
not known	2	1	-	-	-	-	-	4
Totals	14	1	1	-	10	13	2	5

Table 7.2 Quantitative analysis of the smithy hearths in 1672 Hearth Tax returns for Lower Hallam.

Heeley

Heeley was a hamlet to the south-west of Sheffield, adjacent to the eastern boundary of the old Sheffield Park. The village lay on the north-facing slope of the valley of the Sheaf, which provided water power for corn-milling, metal-working and grinding. Further up the hill was the hamlet of Newfield Green, close to Gleadless in Handsworth parish.

Almost half the households were connected to one of the cutlery trades; the majority being cutlers. There is good correlation between the apprenticeship records and the taxpayers resulting in many of the inhabitants of Heeley and Newfield Green being identified. The scissorsmith had a smithy hearth and so did each Newfield Green scythesmith. The majority of the nineteen properties had only one or two domestic hearths, apart from one farm and the six-hearth house of Widow Swift and five taxpayers were listed as being poor.

Only one husbandman has been identified, but perhaps there were more men having dual occupations, working in Heeley's open fields. Of interest are the woodcutter and

wood collier. The proximity of the huge mediaeval hunting park of Sheffield to the east and the Beauchief estate on the west must have provided many opportunities for timber-based crafts. The hunting park had been disparked by 1672, with much of the timber being cut down as fields and farms were created.

sequence in Hearth Tax	name		h	sm	free-dom	occupation	notes
Heeley							
24	Tayler	Robert	2	-	1667	cutler	*trained by his father Thos.of Heeley*
26	Stevenson	Robert	1	1	1667	cutler	*son of Robert, husbandman, Dore to John Hartley, Sheffield*
28	Stones	William	5	-	-	husbandman	*son apprenticedto Wm Stevenson, cutler, Sheffield, 1681*
29	Fearnley	John	2	-	1632	cutler	*son of John, no occupation, of Heeley to George Rose, Heeley*
31	Oxspring	Thomas	1	-	-	woodcutter	*son apprenticed to Thomas Smythe, cutler, Sheffield, 1676*
32	Roddis	Thomas	1	-	-	wood collier	poore, *son apprenticed to Robert Shertcliffe, cutler, Sheffield, 1672*
34	Swift	Widdow	6	-	-	-	*possibly widow of Robert Swift, cutler, F1638*
35	Stones	William	4	-	-	-	& tenants, poore *(see entry 28)*
36	Chapman	Chris.	1	-	1633 or 1669	cutler	*son of Richard,cutler, Heeley or son of George, Sheffield Park*
37	Garlick	Nathan	1	1	1655	cutler	*son of Robert, scythesmith, Heeley*
42	Rose	Robert	1	-	-	cutler	not liable yet, *no record of apprenticeship*
Newfield Green							
38	Holland	Enock	-	1	1681	scythesmith	poore, *no details of apprenticeship*
39	Hollingworth	George	2	1	1664	scissorsmith	*son of Ralph, husbandman, Dore to Henry Gillott*
41	Brownell	Thomas	2	1	1681	scythesmith	*no details of apprenticeship*

Table 7.3 Identified taxpayers for Heeley and Newfield Green, 1672. Notes in italic are details from the apprenticeship records.

Apprentices

In the previous chapter, the numbers of apprenticeships was taken as an indication of the expansion of the manufacturing community and the vigour of the masters. Figure 7.3 is a diagrammatic representation of the origins of the apprentices to Heeley.

Because Heeley and Newfield were discrete areas, it is easier to quantify the movements into and out of the hamlets. The numbers of apprentices who were trained in Heeley were counted for the fifty-year periods, 1624–1679 and 1720–1779. It shows that most apprentices came from the parishes and townships adjacent to Heeley, few boys coming from east or north of Sheffield town. Some boys did travel from further afield, though the inward migration of boys to Heeley was not very large. The diagram also shows the numbers of boys who left Heeley and Newfield for training. As well as an increase in overall numbers both to and from Heeley in the later period, it highlights the attraction of Heeley as a place to train, especially to Norton and Sheffield boys.

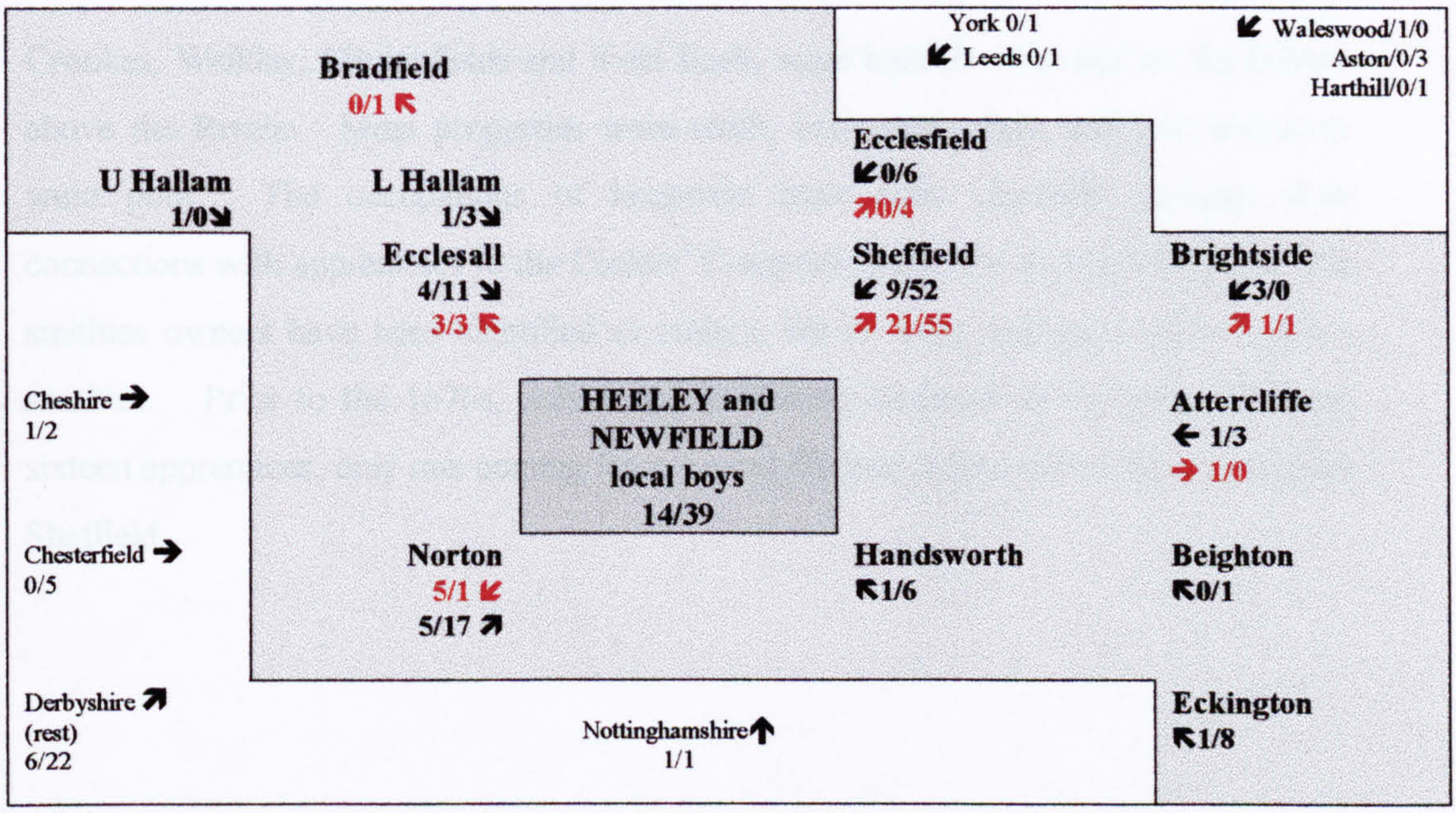


Figure 7.3 Representation of the movement of apprentices to and from Heeley, in the periods 1620s-1670s and 1720s-1770s. The first number in each pair is for the first period. Numbers in red indicate boys leaving Heeley. Shaded areas were in Hallamshire or within the Cutlers' Company sphere of influence.

In reverse, Heeley boys generally went to Sheffield. It is surprising that so few boys either came from or went to other parts of Lower Hallam and Ecclesall Bierlow, even

though these areas had communities of cutlers. In the earlier period, the metalworking community in Heeley was almost entirely composed of cutlers, with one scissorsmith, and the cutlers continued to dominate the village until the end of the records. Data relating to scythesmith apprenticeships do not exist before 1681 and the scythesmiths left the Company in 1728, making it difficult to estimate their numbers. In the later period, filesmiths became resident in Heeley, after Nathaniel Hoyland became the first recorded filesmith master in the 1690s. He was the son of a husbandman from Hallam and was trained in Attercliffe.

Craftsmen in the northern part of Lower Hallam

Crookes, Walkley, Cloughfields and Steel Bank, were hamlets scattered on the hillside above the Rivelin. Most properties were small, two were empty and two taxpayers were poor. The occupations of taxpayers have been identified through their connections with apprentices to the Cutlers' Company craftsmen so that four of the five smithies owners have been identified as cutlers, but as many craftsmen were without smithies. Prior to the 1670s, only a dozen masters operated in the area, attracting sixteen apprentices, only one coming from Lower Hallam; with most of the others from Sheffield.

sequence in Hearth Tax	location	name		h	sm	freedom	occupation	notes
1		Wild	Jos.	1	-	1644	cutler	*son of Wm., Crookes*
2	Crookes	Foster	John	1	-		cutler	*father or son*
3	Crookes	Foster	John	1	-	1671	cutler	not yet Lyable till Michs. next; *either father (no details) or son John, both cutlers*
4	Crookes	Spooner	Fran.	2	-	-	husbandman	Constable; *son James apprenticed to Thomas Bower, Crookes, cutler, 1667, (entry no.44)*
7	Crookes	Webster	Ri	1	-	-	pointer	*son apprenticed to Abel Yates, 1650*
9		Spooner	Widd.	2	-	-	-	poore
10	Crookesmoor side	Spooner	Willm	1	-	-	yeoman	*son William apprenticed to Robert Longson, Neepsend cutler, 1673*
12	Cloughfields	Webster	Willm	4	1	1644	cutler	1 not finished; *son of Thomas, cutler, Walkley ?*
17	Cloughfields	Webster	Tho.	1	1	1630 or 1633	cutler	*son of Thomas, cutler, Cloughfields. or son of Edward, cutler, Walkley*
19	Crookesmoor side	Smith	Jos.	1	-	-	husbandman	*son John apprenticed 1687 to Wm Hoole, cutler, Crookes*
21	Crookesmoor side	Hoyland	Robt	1	-	-	cutler	*trained son Joseph, 1669, no record of own training*
22	Crookesmoor side	Lassells	Martin	2	-	1646	cutler	*trained by father, Robert, Crookesmoor*
The assessors went to Heeley from entry number 24 then returned to Crookes								
44	Crookes	Bower	Thos	1	-	1671	scissorsmith	*son of Thos. cutler, dec, to Edward Badger*
45	Steel Bank	Bradshaw	John	2	-	-	husbandman	*son apprenticed to Wm Hoole, Crookes, cutler, 1681*
46	Steel Bank	Taler	Hen.	1	-	-	husbandman	*son apprenticed to Francis Brownell, scissorsmith, 1658*
47	Crookes	Hides	Hugh	1	1	1673	cutler	*trained by father John; taking apprentices 1680s*
50	Crookes	Haile	John	1	-	-	mason	*dead by 1683, when sons apprenticed*
52	Walkley	Hides	Joseph	1	1	1663	cutler	poore; *trained by father, William*
53	Walkley	Hides	John	1	-	1637	cutler	*trained his son Hugh, 1673*
54	Walkley	Rawson	Edwd	3	-	-	tanner	*son James apprenticed to Andrew Wade, Sheffield, 1674*
56	Walkely Bank	Wilson	Tho.	1	-	-	clothier	*son Emanuel apprenticed to Richard Fenton, Malin Bridge, cutler, 1680*
73	High House	Bawmforth	George	5	3	1653	scissorsmith	*apprenticed to father George, High House*

Table 7.4 Identified taxpayers in the northern part of Lower Hallam, 1672. Additional data from apprenticeship records in italic.

Proximity to grinding wheels

The availability of water-powered grinding wheels has been cited as an influential feature in the development of the cutlery trades in Sheffield. Figure 7.4 shows the sites on the Rivelin, Loxley and Sheaf, which were within easy reach of the men of Heeley, Newfield, Crookes, Walkley, Cloughfield and Steel Bank.

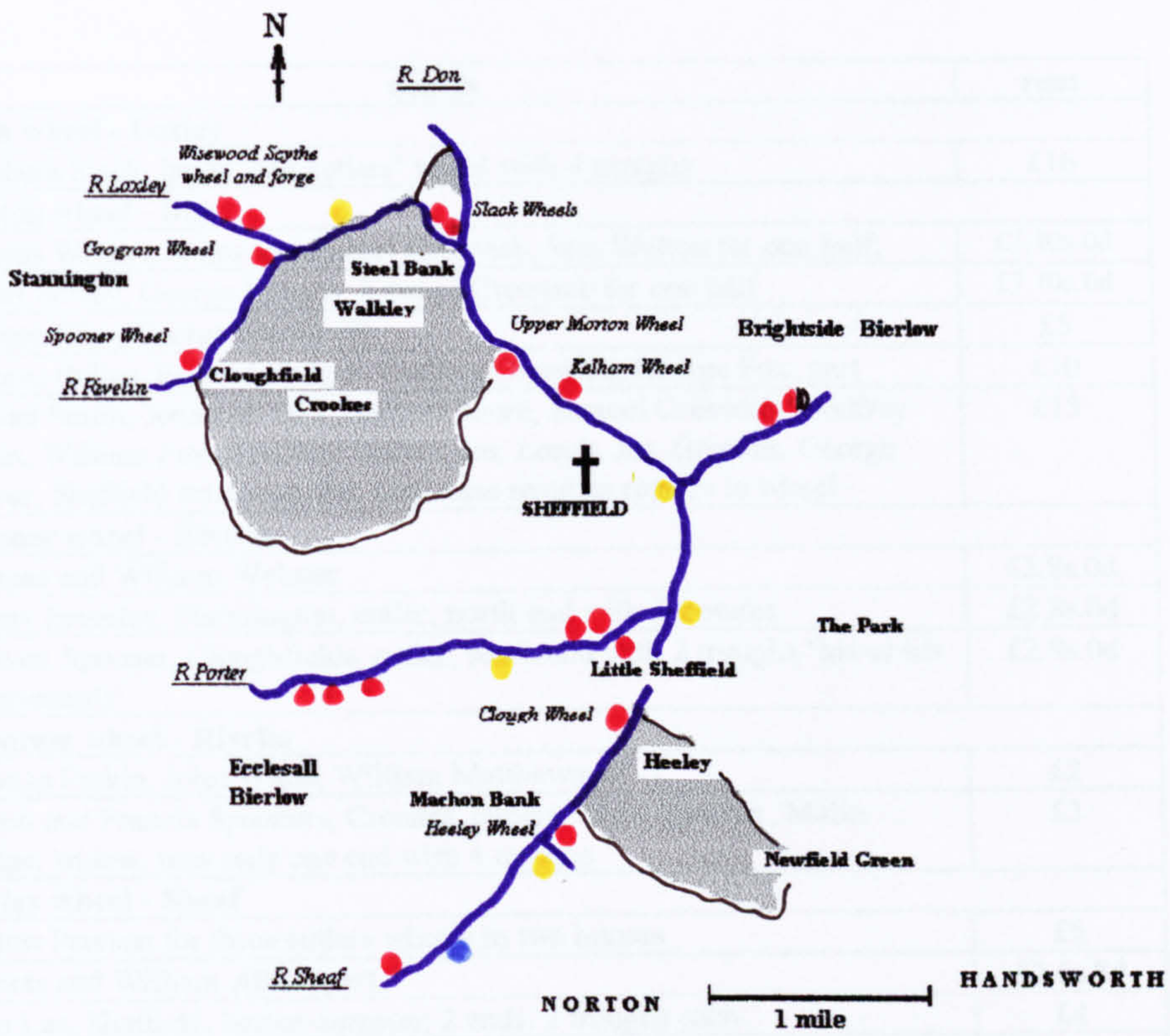


Figure 7.4 Lower Hallam Township (grey) showing the nearby water-powered grinding wheels available in 1672. Red = grinding; yellow = corn-milling; blue = metalworking; black = other.

Some men were perhaps prepared to walk further, to the sites on the Porter and Don. However, the Lower Hallam cutlers had seven grinding wheels accessible to them, but these would also have been in demand from cutlers at Little Sheffield and Machon

Bank in Ecclesall Bierlow and from the expanding numbers of craftsmen in the Bradfield chapelry, especially from Stannington.

It is impossible to know who went where, since there was a complex system of leasing and the sub-tenancies generally went unrecorded. The major landowner was the Duke of Norfolk and surviving documents give some idea of the people involved. Table 7.5 shows details from the Norfolk rentals and leases.

date	details	rent
	Slack wheel - Loxley	
1670	Elizabeth Slack; lands with cutlers' wheel with 4 troughs	£16
	Morton wheel - Don	
1637	Thomas Wright, James and Robert Creswick, Wm Walton for one half;	£7.10s.0d
1637	Robert Sorsby, George Hobson, Edward Creswick for one half	£7.10s.0d
1676	William Ellis, George Nower (?)	£5
1676	Thomas Bullas, Edward Badger, Godfrey Creswick, George Fox; part	£10
1716	Samuel Smith, Jonathan Birk, Samuel Shore, Samuel Creswick, Godfrey Stevin, William Fox, Sheffield cutlers; Jos. Leech, Jos. Greaves, George Mawer, Sheffield scissorsmiths; new lease requires repairs to wheel	£15
	Spooner wheel - Rivelin	
1670	Thomas and William Webster	£2.8s.0d
1718	Jeremy Bromley, Stannington, cutler, north end with 2 troughs	£2.8s.0d
1718	William Spooner, Cloughfields, cutler; south end with 2 troughs 'his or his undertenants'	£2.8s.0d
	Grogram wheel - Rivelin	
1676	Thomas Parkin, John Wilde, William Matthewman	£2
1718	Joseph and Francis Spooners, Crookes, cutlers, Mary Spooner, Malin Bridge, widow; now only one end with 4 troughs	£3
	Heeley wheel - Sheaf	
1637	Widow Pearson for three cutlers wheels in two houses	£5
1676	Francis and William Atkin; part	£2.6s.8d
1716	John Lee, Sheffield, barber-surgeon; 2 ends, 2 troughs each	£4
1737	Samuel Shore on behalf of Thomas Lee; 2 ends, 4 troughs each	£4
	Clough wheel - Sheaf	
1637	Richard Symes, Thomas Badger, Wm Winter	£3
1676	Robert Tripat, John and Margaret Steven, Thomas Noak; part	£3
1676	Richard and John Sims, Joseph Smith; part	£3
1716	John Cooper, Sheffield, shearsmith; part with 2 troughs (and part of Cinderhill wheel with 3 troughs)	£6

Table 7.5 Details of tenants of some wheels available to Lower Hallam cutlers.[3]

Slack wheel on the Loxley near the confluence with the Don had a high rent, which in 1670, included land. The tenant, Elizabeth Slack was probably the widow of Richard Slack, a cutler and tenant in 1654. [4] Richard died during the training of his son Jonathan, who gained his freedom in 1665 and in 1672, Widow Slack was taxed for five domestic hearths and a smithy (entry 63 at Owlerton). As stated above, Slack wheel seems to have been in disrepair in the 1660s and Malin Sowerby, for some reason, was taxed for a 'new wheele chimney' in 1672.

In 1676, the tenants of Morton wheel were cutlers. It is noticeable that the rent for this wheel, existing from at least 1581, was also quite high, possibly reflecting the demand placed on it by the Sheffield craftsmen. It also shows that parts or 'ends' of grinding hulls, could be tenanted by different leaseholders. On the Rivelin, the Spooner and Grogram wheels were accessible to the craftsmen from Crookes and Cloughfields. The Websters of Cloughfields held the lease for Spooner wheel from at least 1637. Thomas and William may have been father and son, listed 17th and 12th in the Hearth Tax return and since both men had smithies, they were evidently not concentrating on grinding. In 1716, the wheel, which was sometimes referred to as Rivelin Bridge wheel (confusingly because one of that name was built just downstream in 1724), was leased by William Spooner (F1708 or 1714) and James Bromley. The Grogram wheel in 1676 was tenanted by three cutlers, whose freedoms in the 1620s and 1630s place them as being elderly, but they cannot be identified in the Hearth Tax. There were taxpayers called Matthewman in Wadsley and the Wild family lived in Crookes. By the 18th century, the Spooners were widespread in the Crookes area and became involved with Grogram also.

It is possible to identify some of the tenants, but the picture remains confusing. Clough wheel and Heeley wheel on the Sheaf were available for the Heeley men, but none of the above listed tenants was in the 1672 Hearth Tax for Lower Hallam. Clough wheel existed in the 16th century and by 1676 was leased by the following Sheffield people: - John Stevan, the Sims and Joseph Smith who were all scissorsmiths in Sheffield 1st part, Margaret Steven (Sheffield 1st part, 83rd) and Robert Tripet, a cutler (Sheffield 2nd part, 9th). Upstream, Heeley wheel also appeared in the Shrewsbury rental of

1581, listing 'John Hobson for the wheeles at Healy Bridge, 40s' and, in the Harrison survey of 1637, Widow Pearson paid £5 rent.[5] In 1676, the tenants were the sicklesmiths, Francis (F1638) and William Atkin (F1660) of Lightwood, Norton. What is evident from all this is that in 1672, no craftsmen from Heeley or Newfield had a formal tenancy for either of the two nearest wheels. The Heeley men would therefore have been sub-tenants, for whom no documentary evidence remains.

Summary

This overview of the cutlery craftsmen of Lower Hallam shows a concentration in Heeley which included two scythesmiths. It would seem that Heeley and Newfield Green had a well-established community of craftsmen in the early years of the 17th century, dominated by cutlers, with one or two other craftsmen - scissorsmiths and scythesmiths. The hamlets had family and craft links with the adjacent areas for scythe manufacture in Norton parish. The evidence from the Cutlers' Company records and the Hearth Tax indicate two rather poor hamlets of just over a dozen houses, with a small number of smithy hearths for cutlers. This possibly suggests that the Heeley cutlers were specialising in grinding and hafting, rather than forging. There were sufficient masters, who trained about half the local apprentices, as well as attracting boys from elsewhere.

The northern part of the Township had features similar to Brightside Bierlow, with the cutlers scattered in hamlets. These men had access to several grinding wheels, but very few of the 1672 taxpayers had formal tenancies for these wheels. It is interesting to note that several women were involved in the leasing of these wheels during the 17th and early part of the 18th centuries.

Upper Hallam

General description and analysis

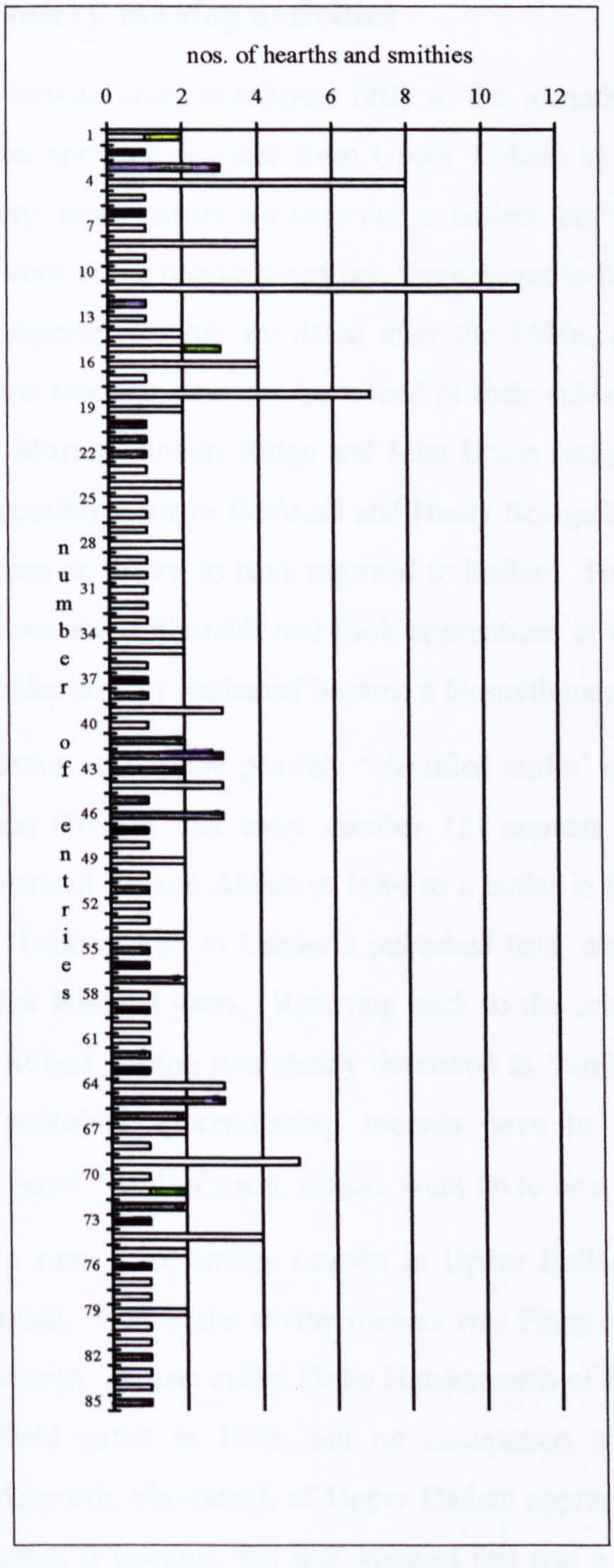
Upper Hallam was remote from Sheffield, with scattered farms and hamlets but few places have been identified with any certainty. One of the problems in identifying properties and craftsmen is the rather casual way the term 'Hallam' was used in the records, since it could refer to either Upper or Lower Hallam. The area was predominently rural and this is reflected in the number of agricultural fathers in the 17th century who apprenticed their sons - eight being either husbandmen or yeomen. Only one cutler was initially identified in Upper Hallam and he did not have a smithy, but while there was little evidence for cutlery activity, some fathers were interested enough to send their sons away to be apprenticed in the trades. The majority of properties had only one hearth and houses having more, stand out as unusual.

number of entries	85	poor, with or without certificates	6
number of hearths	152	empty	-
average no. of hearths	1.7	new chimneys	1
no. of properties with smithies	3		
no. of smithies	3	demolished chimneys	-
%age of taxpayers with smithies	3.5	widows & other women	10

Table 7.6 Quantitative analysis of the 1672 Hearth Tax return for Upper Hallam

smithies others women

Table 7.7 The colours used in the distribution graph.



Stumperlowe 4

Fulwood 15
Fulwood Hall 18

Bennetfield 21
Fulwood 22

Fulwood 38, 41, 43, 46

Prior Nab 57

Whiteley Woods 62

Figure 7.5 The distribution of domestic and smithy hearths and occupations in Upper Hallam. The other occupations include husbandmen and yeomen

Cutlery-making activities

This remote area contributed little to the manufacturing output of Hallamshire; only sixteen apprentices came from Upper Hallam in the 17th century. During the 18th century, more fathers put sons out to cutlers, but without a local community of master craftsmen in the previous century, there seems to have been little appeal. Almost all the early apprenticeships are dated after the 1670s, and because less than half the boys became freemen, few can be traced in their subsequent life. Three boys, the sons of John Morton, Robert Ridge and John Union settled in Sheffield, while Thomas Dale's son possibly went to Ecclesall and Henry Scargell's boy went to Attercliffe. Only one man can be shown to have returned to Hallam. He was John Hoyland, son of Stephen, who became a filesmith and took apprentices in the first decade of the 18th century. His older brother Nathaniel became a filesmith master in Heeley.

Returning to the one possibly 'identified cutler' of 1672, there is a problem. Robert Ashton (Hearth Tax entry number 12) appears only once in the records when he apprenticed his son Abijah in 1684 to a cutler in Ecclesall Bierlow. He was described as a 'knife maker' in Leader's published lists, which is a term not generally used for another hundred years. Referring back to the original apprenticeship record, it shows that Robert Ashton was clearly described as 'husbandman'! This is an example where the published apprenticeship records have to be checked when unusual data is uncovered. Ashton's son, Abijah, went on to be a master in Attercliffe.

There were three smithy hearths in Upper Hallam but none of the owners has been identified. One of the smithy owners was Philip Hawksworth, who might have been a blacksmith. A man called Philip Hawksworth of Fulwood apprenticed a son to a Little Sheffield cutler in 1673, but no occupation was given. Fifty years later, Caleb Hawksworth, blacksmith of Upper Hallam apprenticed his son Philip to a cutler. The argument is tenuous, but may suggest this was a blacksmith's smithy. The other two smithies belonged to Robert Hinde and John Dale. Families with these surnames were in the Upper Hallam/Bradfield areas at this time, but none can be identified as being connected with the cutlery trades and no father of these names apprenticed sons.

There is little to be said about the smithy hearths and their owners in Upper Hallam since it is likely that they were not linked to cutlery manufacture. The earliest apprenticeship to an Upper Hallam master was in 1708 when a Staffordshire boy went to William Berrand (variously spelt as Berry, Berrin and even Bergin). He was a filesmith, the son of a tailor from Bradfield parish, who gained his freedom in 1705. Throughout the 18th century, there were several filesmith masters in Upper Hallam, with an increasing numbers of cutlers and an occasional scissorsmith.

Summary

Upper Hallam, rural and remote from Sheffield town, had no community of cutlery craftsmen. The three smithy owners cannot be linked to the cutlery trades and the although parents sent some of their sons to cutlers, and presumably some of them returned home, the earliest Upper Hallam master was not recorded until 1708.

Ecclesall Bierlow

General description and analysis

Ecclesall Bierlow was a large, rural township to the south west of Sheffield town. Its boundaries in the east and north are confused. The eastern boundary ran down the centre of Coalpit Lane in Sheffield and the northern limits were entwined with Lower Hallam among the open field strips of Crookes. This Township also had extensive woodlands. The rivers Porter and Sheaf ran through the Township, with hamlets scattered on the slopes rising to the west and a more substantial settlement near Sheffield, called Little Sheffield. The cutlery trades were well-represented by cutlers, with single craftsmen making awlblades, scythes and scissors. Because many men and masters have been identified in this area, it is possible to give specific location for

taxpayers. The larger houses are easily identified by the number of hearths. Mr Henry Bright, junior, lived at Whirlow Hall (listed 11th), Mr Jessop at Broom Hall (121) and Robert Wilson at Tapton Hall (122). From the identified locations, the routes taken by the assessors can be suggested.

The assessors seem to have taken several routes, the first being to the boundary settlements, returning along the road beside the river Porter. The first identifiable place is Whirlow Hall (11) almost on the western parish boundary, followed by Greystones (24); Hoyle House (28) and Sharrowmoor (32). The second sweep went out to Whiteley Woods (35), a large house with six hearths; then further out to Fulwood (37) and Highlane head (48), before heading back towards Sheffield via Banner Cross (58), Cherry tree hill (62) and Ecclesall (64). Instead of continuing to the settlement of Machon (or Hauslin) Bank, the assessors turned west again to the Woodseats/Millhouses area around the river Sheaf. Here, the entries numbered 68, 71, 77, 79 have been identified. This was a community of small houses with some cutlers' hearths. The assessors then turned back down the River Sheaf to Holt House (80), Carter Knowle (83) and to Machon Bank (89, 91, 92). They returned north to Cherry tree hill (94, 95) and Dobbin Hill (97), then along the road towards Sheffield, arriving at Little Sheffield. From the entries identified as Little Sheffield, it seems that the assessors called at houses here on their way to and from their other journeys. The identified entry numbers for Little Sheffield were 100, 105, 110, 111, 112, but also 13, 57, 85.

Their final trip out must have been to the northern part of the Township calling at two of the larger houses - Broom Hall (121) and Tapton Hall (122) before returning via Crookesmoor side (126). From the graph in Figure 7.5, it can be seen that the cutlers were largely concentrated in the areas close to Sheffield town - Machon Bank and Little Sheffield. The awlbladesmith and the scythesmith were also located in this area. No shearsmith or filesmith has been identified in the Ecclesall Bierlow assessment.

number of entries	134	poor, with or without certificates	12
number of hearths	296	empty	3
average no. of hearths	2.1	new chimneys	8
no. of properties with smithies	21		
no. of smithies	22	demolished chimneys	1
%age of taxpayers with smithies	15.7	widows & other women	11

Table 7.8 Summary data for Ecclesall Bierlow Hearth Tax return, 1672.

The assessment of Ecclesall Bierlow presents a picture of an affluent area, with a number of properties having four or more domestic hearths. Only ten per cent of the entries were recorded as being poor with a similar percentage of women as taxpayers. At the other end of the social scale, thirteen men, seven with the surname 'Bright', were given the title of 'Mr'. Being on the western side of Sheffield town, several influential men found the atmosphere here more pleasant. Mr Jessop, JP, lived at Broom Hall and Mr John Bright, Banner Cross (58) and Mr Henry Bright, senior, of Whirlow Hall (11) were both Capital Burgesses, who were involved in the management of property belonging to the parish church.

The identification of these taxpayers comes largely from the apprenticeship and freedom records of the Cutlers' Company, with further information from the parish registers, probate records and the reconstruction of 17th century society by David Hey.[6] The evidence shows that in Ecclesall Bierlow, the main centres for cutlery-making were at Little Sheffield and Machon or Hauslin Bank, with a few craftsmen further upstream at Woodseats/Millhouses. Six identified cutlers lived in Little Sheffield, four having smithies, while three cutlers lived at Machon/Hauslin Bank, together with the scythegrinder. Widow Wright, who had a smithy hearth, might have been the widow of a scythesmith of Hauslin Bank. The numbers of the entries for the craftsmen suggest close physical locations, perhaps next-door neighbours, but this cannot be confirmed. The surnames of four of the cutlers were common in Sheffield – the Creswicks and the Pearsons – which makes definitive identification difficult.

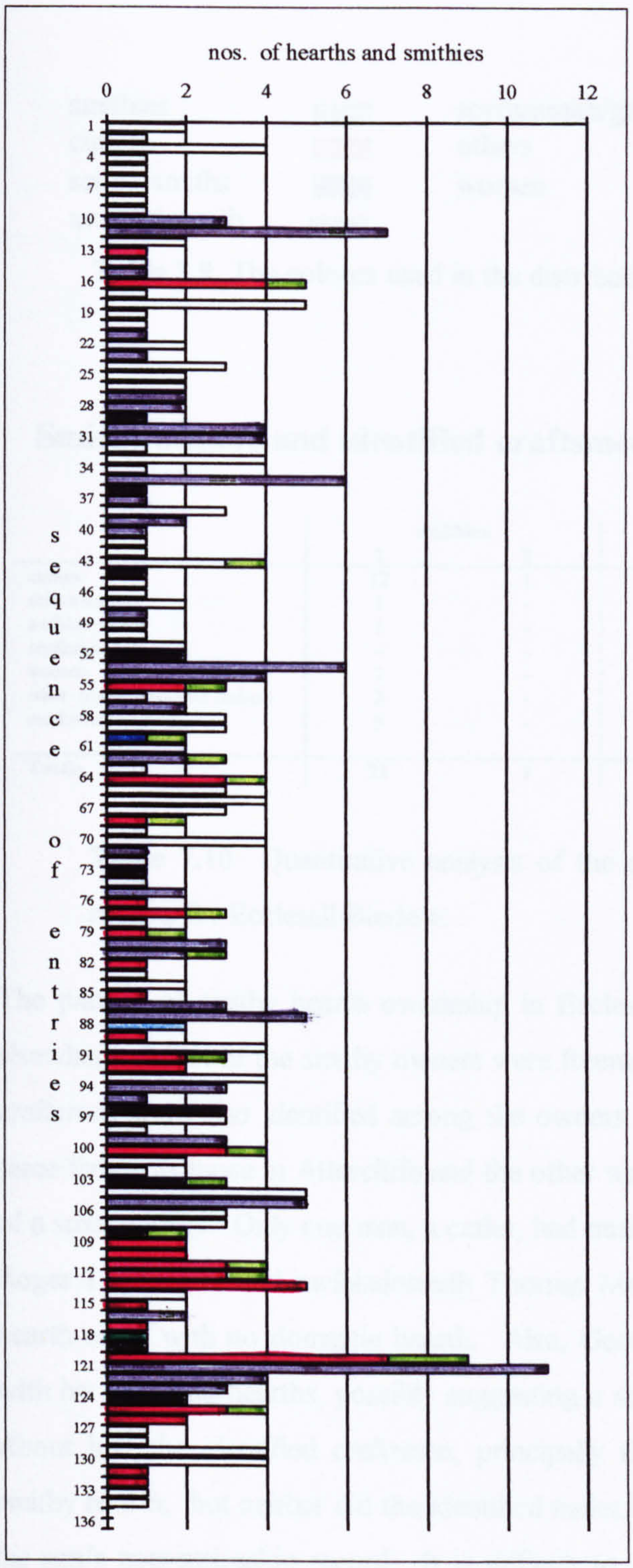


Figure 7.6 The distribution of smithy hearths and occupations in Ecclesall Bierlow.

smithies		scythesmith/grinder	
cutlers		others	
scissorsmiths		women	
awlbladesmith			

Table 7.9 The colours used in the distribution graph in Figure 7.6.

Smithy owners and identified craftsmen

	smithies		craftsmen		poor	
	1	2	with	without	with	without
cutlers	12	1	13	11	-	1
scissorsmiths	1	-	1	-	-	-
awlbladesmith	1	-	1	-	-	-
scythegrinder	-	-	-	1	-	-
women	2	-	-	-	1	3
other (mason, bellows maker)	2	-	-	-	-	-
not known	3	-	-	-	-	7
Totals	**21**	**1**	**15**	**12**	**1**	**11**

Table 7.10 Quantitative analysis of the smithy hearths in 1672 Hearth Tax returns for Ecclesall Bierlow.

The pattern of smithy hearth ownership in Ecclesall Bierlow is similar to that found elsewhere. Most of the smithy owners were freemen; two women and two non-cutlery craftsmen were also identified among the owners. One was a bellows maker, of the same family as those in Attercliffe and the other was a mason – a rather unlikely owner of a smithy forge. Only one man, a cutler, had multiple hearths and two men, the cutler Roger Leadbeater and awlbladesmith Thomas Moake, were taxed only for a smithy hearth each, with no domestic hearth. Also, George Pearson's smithy was not listed with his domestic hearths, possibly suggesting a smithy some distance from his house. About half the identified craftsmen, principally the cutlers, did not have their own smithy hearth, but neither did the identified nailer. He only appears once as a father in his son's apprenticeship record. It is difficult to imagine what a nailer did without a forge, though he may have been a merchant or rented one of the women-owned smithies.

Sequence in Hearth Tax	location	Surname	first name	free-dom	h	sm	craft	notes
13	Little Sheffield	Stones	Willm		1	-	cutler ?	*apprentice in 1625*
15		Bengham	George		1	-	nailer	*son apprenticed to Hugh Stevenson, cutler, Walkmill Lees, 1671*
16		Barley	John	1654	4	1	cutler	A Smithy *son of Nicholas, gent. Birley, to Wm Oates, Sheffield*
43		Watson	Hen.		3	1	-	A Smithy;
55		Oakes Jun.	Wm	1645	2	1	cutler	1 of these not finished more a Smithy; *son of William,cutler, Sheffield*
60	Sharrow moor	Jeffcock	John	1664	1	1	scissor-smith	A Smithy,*son of Thomas, weaver, Whiteley woods, to Anthony Green, scissorsmith, Sheffield, F1637 or his son*
62	Cherrytree	Oates	Tho.		2	1	mason	A Smithy; *son apprenticed to George Cartwright, Cherrytree, cutler 1677*
64	Ecclesall	Firth	John	1640	3	1	cutler	A Smithy, *son of Wm, collier, Little Sheffield, to Henry Osgathorpe, Grimesthorpe*
68	Woodseats /Millhouses	Barton	John	1665	1	1	cutler	A Smithy; *son of Anthony, cutler, Woodseats (listed 132)*
76		Thornellie	Willm	a1644	1	-	cutler	*son of Richard, sievemaker, Crookesmoore, to Wm Creswick, Sheffield*
77	Millhouses	Fox	Antho.	1667	2	1	cutler	A Smithy;, *son of Anthony, cutler, Millhouses (or father, F1632)*
79	Millhouses	Barker	Chr.	1653	1	1	cutler	A Smithy; *son of Chris. miner, Stony Middleton, to John More, Norton Forge*
81	Ecclesall	Osburne	Wm		2	1	bellows maker	& Smithy poore Ced; *son apprenticed 1676 to Thomas Machon, cutler, Little Sheffield (entry no. 100)*
82		Firth	Robt	1628	1	-	cutler	or Robt Hall; *son of Thomas, Carter Knowle, to Thomas Milward, Beauchief*
85	Little Sheffield	Leadbeater	Roger	1637		1	cutler	A Smithy, *son of Peter, cutler, Little Sheffield*
88	Hauslin Bank	Parr	Thos.	-	2	-	scythe-grinder	*d.1694, inventory*
89	Machon Bank	Chapman	Antho.	1653	1	-	cutler	poore Ced; *son of Thomas, yeoman, Hawslin bank to John Buxton, Hawslin Bank*
91	Hauslin bank	Pearson	John	1641	2	1	cutler	A Smithy new built *son of Thomas, cutler, Hawslin bank, to James Creswick*
92	Machon Bank	Pearson	Tho.	1637	2	-	cutler	*son ofThomas, cutler, Hawlsin Bank to Francis Newbolt, Hawslin Bank*
97	Dobbin Hill	Savidge	John	1645	3	-	cutler	*son of John, Woodseats, scythesmith, to Thomas Milward, Norton lees*
100	Little Sheffield	Machon	Thos	1645	3	1	cutler	A Smithye; *son of Thomas, yeoman, High Storrs, to Richard Machon, Lidgate*
103		Unyon	Mary		2	1		per Stephen Fox smithy; *Stephen Fox, son of Stephen, yeoman, Little Sheffield to Wm Hides, Sheffield*
108		Wright	Widd.		1	1		poor Ced more a Smithy Demold; *possibly widow of Thos Wright scythesmith, of Hauslin bank,*
110	Little Sheffield	Creswick	Willm	1652	2	-	cutler	*son of Wm, Little Sheffield, cutler, possibly brother of George, entry no 110*
111	Little Sheffield	Creswick	George	1641	3	1	cutler	A Smithy *son of Wm, Little Sheffield, cutler*
112	Little Sheffield	Smeadley	Thomas	1626	3	1	cutler	A Smithy; *son of George, cutler*
113	Ecclesall	Pearson	George	1645	5		cutler	*son of Thomas, Machon bank, cutler, to Francis Newbolt, Hawslin bank,*

								possibly brother of Thomas, enbtry 92 see also entry 115
115	Ecclesall	Pearson	George		-	1	cutler	Smithy, *see entry 113*
117		Webster	Edwd		1	-	cutler	not yet finished; *several possibilities,*
118		Mooke	Tho.	1681	-	1	awlblade-smith	Smithy *no apprenticeship details*
120		Oates	Willm	1654	7	2	cutler	for Smithys, *son of Wm, Clarkhouse, yeoman, to Robert Swift, Heeley*
125	Crookes	Wild	Samll	1645	3	1	cutler	A Smithy; *son of Wm, Crookes, cutler to George Wilde , Little Sheffield father listed 126 ?*
126	Crookes	Wild	Willm	-	2	-	cutler	*no details of training*
131		Shemild	Jos.	a1662	1	-	cutler	Empty *son of Wm Wakefield, clothier to Stephen Metcalfe, Sheffield*
132		Bartin	Antho.	1631	1	-	cutler	*son of John, Woodseats, to Thomas Barton, Woodseats*

Table 7.11 Identifed craftsmen and smithy hearth owners in Ecclesall Bierlow. Additional data is given in italics.

Grinding wheels of the Porter and Sheaf

The craftsmen of Ecclesall Bierlow in 1672 were perhaps the best served of all the Sheffield craftsmen in terms of water-powered grinding wheels. The majority were within reach of the Porter and Sheaf, while the men at Crookes could also have walked down to the Rivelin. Surviving leases and rentals show tenants of some of the wheels, but do not give much indication about how many other men took time at the wheels in a casual way. Tables 7.12 and 7.13 show the tenants of the wheels on the river Porter and on the Sheaf. (Clough wheel and Heeley wheel have been discussed above). A few of the tenants have been identified as taxpayers in the 1672 returns, some also having smithy hearths, suggesting they were not specialist grinders.

The details of the tenants of the available wheels on the Porter and Sheaf add little to the understanding of the communities of craftsmen in 1672. There seems to be no discernable pattern in the men, and women, who took out the leases for these wheels, and although some have been identified through the apprenticeship records, fewer can be identified in the Hearth Tax returns. The wheels on the upper part of the Sheaf appear to have been attractive to the men of Norton parish, while the Porter wheels involved men from Sheffield. Of the men identified, it would seem that some tenants had links with the cutlery trades and some lived fairly close to their wheel, though it is

rather surprising to see that this was not always the case. One might assume therefore that the tenants saw the leasing of the wheels as an economic enterprise rather than as a part of their manufacturing life. This does not seem to take the understanding of industrial organisation in the 1670s much further.

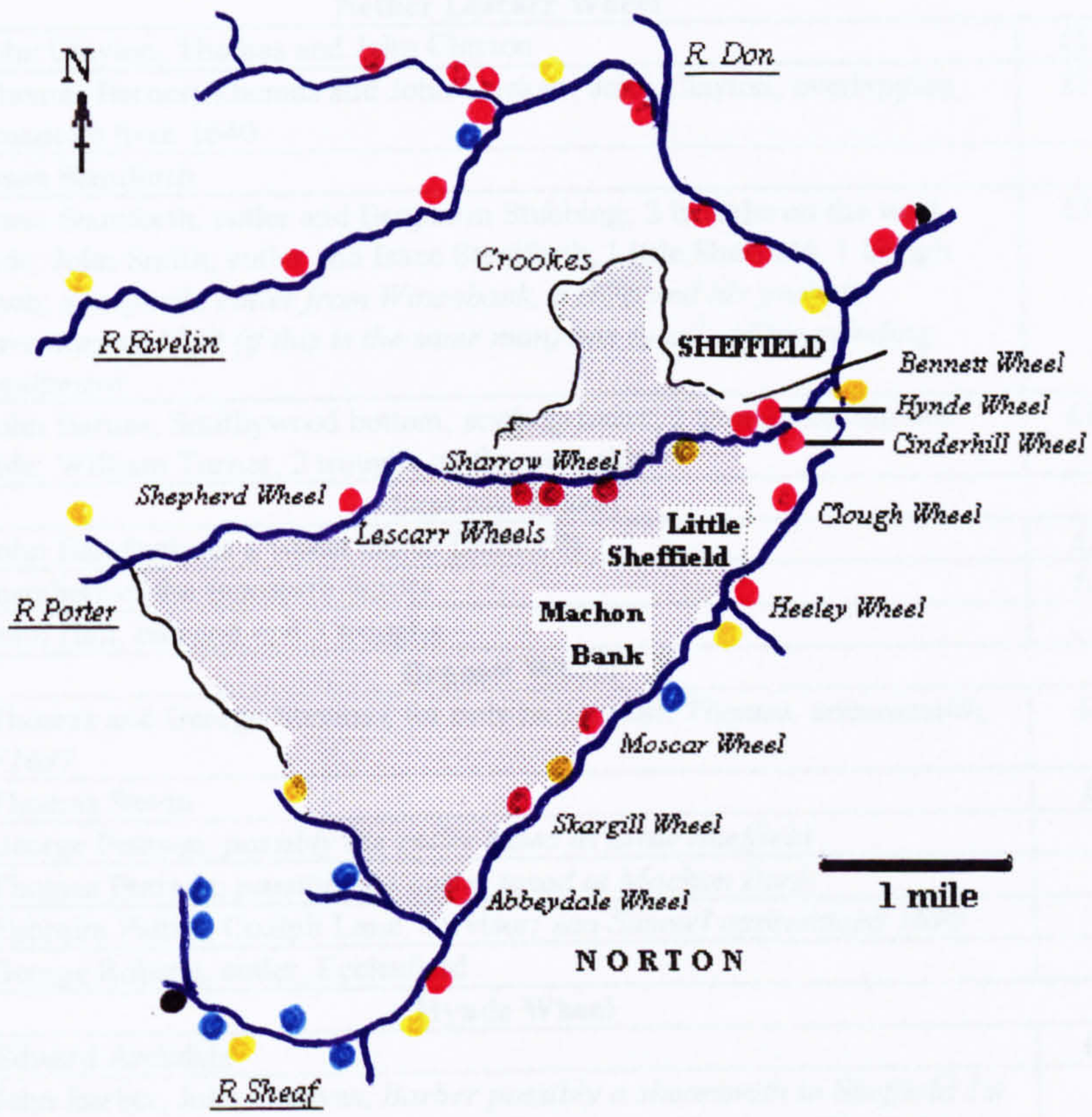


Figure 7.7 Ecclesall Bierlow (grey) showing the nearby water-powered grinding wheels available in 1672. Red = grinding; yellow = corn-milling; blue = metalworking; black = other.

date	details	rent
	Shepherd Wheel	
1637	William Beighton, Ralph Purslove, William Forest; to 1650s; *Beighton, cutler at Stumperlow, apprenticing his son in 1640s; Pursglove from Chesterfield, F1627 and lived in Millhouses. Forest, cutler, no details of training*	£2.4s.0d
1680s	Joseph Hynde	
1698	Thomas Marshall	£1.0s.0d.
1718	Thomas Marshall, Thrift House, Ecclesall, cutler	£1.0s.0d.
	Nether Lescarr Wheel	
1637	John Clayton, Thomas and John Clayton	£1.10s.0d
1648	Thomas Barnes; Thomas and John Trickett; John Clayton; overlapping tenancies from 1640	£1.10s.0d
1654	Isaac Staniforth	
late 17thc	Isaac Staniforth, cutler and Benjamin Stubbing; 2 troughs on the west side; John Smith, cutler and Isaac Staniforth, Little Sheffield, 1 trough each; *Staniforth, cutler from Wincobank, F1676 and his probate inventory of 1739 (if this is the same man) has details of his grinding equipment*	£1.10s.0d
1724	John Barnes, Smithywood bottom, scythegrinder; 2 troughs on the east side; William Turner, 2 troughs on the west side	£1.10s.0d
	Sharrow Wheel	
1637	John Bamforth for a wheel called Bamforth	£2.8s.0d.
17thc	members of the Bamforth family	£2.8s.0d.
1719	John Hall, one end and 3 troughs	
	Bennett Wheel	
1651	Thomas and George Stevins (for only half a year; *Thomas, scissorsmith, F1637*	£1.0s.0d.
1664	Thomas Stevin	£2.0s.0d
1670	George Pearson; *possibly the cutler taxed at Little Sheffield*	
1677	Thomas Pearson; *possibly the cutler taxed at Machon Bank*	
1692	Ephraim Patten, Coalpit Lane, corvisor; *son Samuel apprenticed 1698*	
1701	George Roberts, cutler, Ecclesfield	
	Hynde Wheel	
1650	Edward Archdale	£3.3s.4d.
1676	John Barber, John Greaves; *Barber possibly a shearsmith in Sheffield 1st part, with 3 smithies; Greaves possibly scissorsmtih also of Sheffield 1st part*	
1697	Field Sylvester	
1717	David Fullilove; *from Treeton, cutler, F1693*	
	Cinderhill Wheel	
1637	Robert Ellis and Richard Hayles for a wheel in the pasture	£3.0s.0d.
1670	William Hawke, Edward Ellis, John Wigfall; part; *Hawke was a scissorsmith with 2 smithies,Wigfall was a cutler with a smithy, both of Sheffield 1st part, Ellis was a cutler with a smithy in Sheffield 2nd part*	£3.0s.0d.
1716	John Cooper, shearsmith, 3 troughs; a *master in Sheffield*	

Table 7.12 Details of tenants of grinding wheels on the river Porter. Additional data given in italic.

date	details	rent
	Abbeydale	
1676	wheel built, tenants Hugh Stephenson and partners; *a1646, Stephenson, cutler. from Walkmill Lees, Norton, trained by Thomas Milward at Beauchief, Norton.*	
1695	Robert Savage *F1675 trained by his father Robert, cutler, Cherrytree hill*	
1714	Samuel Biggin, scythemaker, *F1691 trained by his father James, Greenhil, Norton parishl*	
	Skargell/Barten	
1631	Warren Skargell, yeoman built the wheel	
1631	Thomas Milward, *no details of training but cutler at Beauchief,Norton parish, trained Hugh Stephenson of Abbeyale Wheel*	£4
1699	Grace Fox, Anthony Fox, *F1667 trained by his father Antony, Milhouses, entry no 77 at Ecclesall, with a smithy hearth*	£16
	Moscar	
1638	John Wilson, Attercliffe; William Newbolt, Greenhill	
1645	William and Edward Newbolt	

Table 7.13 Details of tenants of grinding wheels on the river Sheaf. Additional data given in italic.[7]

Summary

Ecclesall Bierlow was an area that was attractive to some of the more influential men in Sheffield, whose larger houses were scattered around the Township. The cutlery-making communities were located close to the river Sheaf at Machon/Hauslin Bank and at Little Sheffield, near the confluence of the Porter and Sheaf. Therefore, these communities had access to more water-powered sites than the majority of the Hallamshire craftsmen, but most seem to have been casual tenants.

Conclusions

The analysis of the Hearth Tax returns for these three Townships demonstrates that cutlery craftsmen preferred to live in the small communities close to Sheffield Town

rather than being an isolated cutler in the remote, rural areas. Although 'sizeable' communities of cutlers existed in Little Sheffield, Heeley and the Crookes area, the numbers were very small – less than a dozen in each area. The Upper Hallam Hearth Tax returns shows no evidence that the husbandmen of were involved in the dual economy of farming and knifemaking.

Previous chapters have considered the size and growth of the cutlery communities, the links within families and the training of local boys and outsiders. The apprenticeship records have been used to locate the communities in these three Townships and shows the close links within these communities also. Occasionally, it is possible to demonstrate that father and son were living in the same community and continuing their trades, perhaps sharing a smithy hearth.

The emphasis in this chapter and the next is on the availability of water power. With a number of sites on three rivers, Lower Hallam and Ecclesall Bierlow were fortunate in the supply of water-power for grinding. The sparse documentation relating to the formal tenancies of the grinding wheels, shows that certain families and groups of craftsmen could dominate the scene. The surviving leases for the 17th century suggest that most local cutlers did not hold these formal leases, which were often taken out by men and women in Sheffield. The leases suggest a class of people with money to invest, who were not usually the local cutlers paying for a resource for themselves.

[1] Hey, D., *The Fiery Blades of Hallamshire* (Leicester 1991) 36
[2] Crossley, D., ed., *Water Power on the Sheffield Rivers* (Sheffield 1989) 48
[3] Sheffield Archives, Arundel Castle Muniments; rentals dated 1670, 1676, ACM. S129; leases for 1716, ACM S376; lease for 1737 ACM S377. Harrison's survey, 1637
[4] Crossley, D., ed., *Water Power on the Sheffield Rivers* (Sheffield 1989) 48
[5] ibid, p.107
[6] Hey, D., *The Fiery Blades of Hallamshire* (Leicester 1991)
[7] Crossley, D., ed., *Water Power on the Sheffield Rivers* (Sheffield 1989) 98,99,101 and *Local History Leaflet No.11 The Water Mills of Abbeydale* (Sheffield 1966)

Chapter 8
Bradfield chapelry

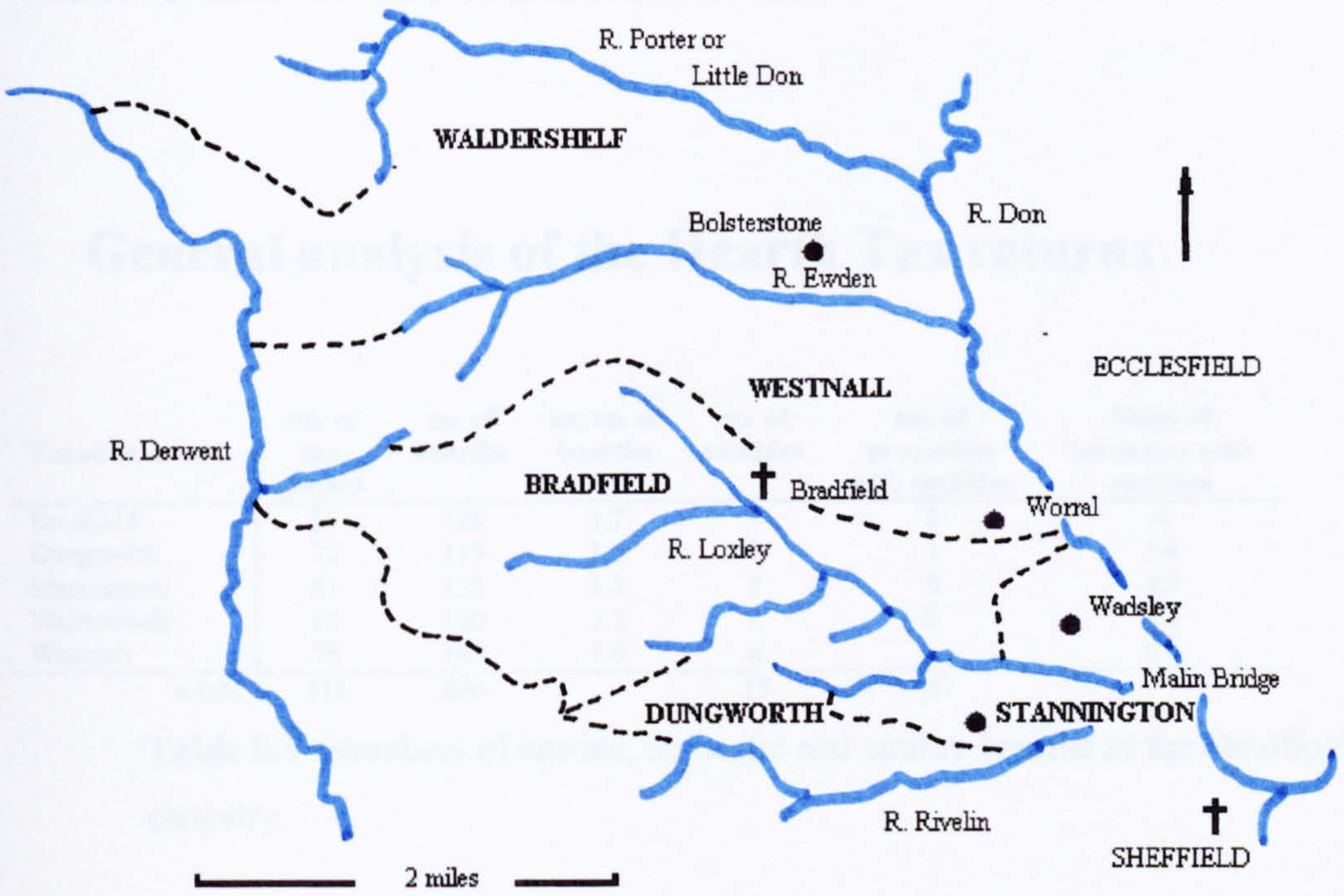


Figure 8.1 Outline map of the Bradfield chapelry.[1]

The huge area of Bradfield chapelry was part of the Ecclesfield parish and lay to the north west of Sheffield. Mainly on high, bleak moorland, it was cut by several rivers, some of which provided waterpower for an increasing number of wheels.

The chapelry was bounded by the river Porter or Little Don in the north; the Don in the east; the river Derwent to the west and the Rivelin in the south. The reconstruction for 1637 by Scurfield shows that the major occupation was agriculture, with open fields, common land, 'intakes' and meadows.[2] Place-names also indicate land once used for hunting, as in Loxley Chase, and Hollins and Haggs refer to the harvesting of holly for fodder.

In the seventeenth century, a small number of cutlers lived in this area, principally in the sub-division of Stannington, which means that few specific locations can be identified elsewhere in the chapelry's Hearth Tax returns. Bradfield chapelry had only 411 taxable properties, giving a population of approximately a thousand. The Hearth Tax assessors listed the area in five sections.

General analysis of the Hearth Tax returns

Taxation area	no. of tax-payers	no. of hearths	av. no. of hearths	no. of smithies	no. of properties with smithies	%age of taxpayers with smithies
Bradfield	75	128	1.7	3	3	4
Dungworth	72	113	1.5	1	1	1.4
Stannington	81	122	1.4	3	3	3.7
Waldershelf	95	146	1.5	2	2	2.1
Westnall	88	147	1.6	6	6	6.8
totals	**411**	**656**		**15**	**15**	

Table 8.1 Numbers of entries, domestic and smithy hearths in the Bradfield chapelry.

Tables 8.1 to 8.3 reveal that Bradfield chapelry had 411 taxpayers, but only fifteen properties with smithy hearths. This indicates modest forging activity with little evidence for dual occupation in forging by agricultural workers, who probably made up the bulk of the population. Five cutlers with smithies have been identified and a further thirteen without hearths. Although some of the communities, such as Stannington, Dungworth and Storrs, had reasonable access to grinding wheels on the

rivers Loxley and Rivelin, this does not seem to have resulted in substantial groups of craftsmen.

Taxation area	no. of tax-payers	poor, with or without certificates	empty	new chimneys	demolished chimneys	widows & other women
Bradfield	75	6	-	-	-	8
Dungworth	72	-	-	-	-	3
Stannington	81	4	2	2	1	3
Waldershelf	95	1	-	-	-	6
Westnall	88	1	-	-	-	4
totals	**411**	**12**	**2**	**2**	**1**	**24**

Table 8.2 Additional details in the Hearth Tax returns for Bradfield chapelry

	cutlers		others	not known
smithies	1	without	1	1
Bradfield	-	-	-	3
Dungworth	-	1	-	1
Stannington	2	6	1 blacksmith	-
Westnall	2	4	1 blacksmith	3
Waldsershelf	2	4	-	-
totals	**6**	**15**	**2**	**7**

Table 8.3 Analysis of the identified cutlery craftsmen and smithy hearth owners in the Bradfield chapelry

The five areas of the Chapelry

Waldershelf and Westnall

These two areas, with farms and very small hamlets, were the most remote from Sheffield. Waldershelf, between the rivers of Ewden and the Porter or Little Don, had hamlets at Midhope and Bolsterstone, while Westnall was south of the Ewden and stretched almost to the River Loxley. The only sizeable hamlet was at Worral, close to Wadsley and the River Don. Few local fathers seemed inclined to place

their sons in the cutlery trades, resulting in few locations being identified in the Hearth Tax entries.

sequence in Hearth Tax	Place	surname		free-dom	h	sm	occupation	additional details
Waldershelf								
7	Stannington	Wainwright	John	a1641	5		cutler	*son of George, husbandman, Stannington*
16	-	Hawley	Fran.	-	1	1	-	& Smithy
20	-	Walker	Nichos	-	3		labourer ?	*inventory.1692*
43	Bolsterstone ?	Morton	Richd	-	1		husbandman?	Milne *son apprenticed in 1639*
45	Hirst	Mathewman	Richd	1655	1		cutler	*son apprenticed in 1677*
46	-	Bramold	Edward	-	2	1	blacksmith ?	& Smithy; *dead by 1703,when son apprenticed*
69	Bolsterstone	Tyngle	Wm	-	1		husbandman	*son apprenticed in 1687*
71	Stannington	Greaves	Edwd	1626	4		cutler	*no details*
80	Ewden	Garlick	Thos.	-	1		weaver	*1700 inventory lists hemp*
81	Bradfield	Greaves	John	-	1		husbandman	*son apprenticed in 1662*
84	Bradfield	Hoyland	George	-	1		husbandman	*son apprenticed in 1677*
Westnall								
4	Stannington	Iberson	Wm	-	1		cutler	*son apprenticed in 1674*
8	Bolsterstone	Morton	Richd	-	2		husbandman	*son apprenticed in 1639*
18	Renold House	Downinge	Nicho.	-		1	blacksmith	Smithy*1699 inventory tools to son Thomas*
26	Bradfield	Morton	Tho.	-	1		cutler	*son apprenticed in 1684*
27	Thorne House	Whiteley	Tho.	-	1		husbandman	*son apprenticed in 1662*
50		Thomson	Edw.			1	-	Smithy
51		Thomson	Nicho.	1664	1		cutler	*son of John, cutler*
53	Bradfield	Smilter	Lyonell	-	1		husbandman	*son apprenticed in 1682*
55	Storrs	Hoyland	John	-	1		yeoman	*son apprenticed in 1672*
56		Waterhouse	Jos.	-		1	-	Smithy
63	Stannington	Hobson	Henry	1640	3	1	cutler	& Smithy *son of George cutler Wadsley bridge*
74		Eyre	Edward	1645	2		cutler	*apprentices in 1654 & 1661*
78	Bradfield	Sanderson	John	-	1		tailor	*son apprenticed in 1686*
82		Ellor	Chr.	-	3	1	-	& Smithy
84	Hugginfield	Shaw	Robt	-	1		no occupation	*son apprenticed in 1687*
85	Low Ash	Drabble	Jonathan	1663	1	1	cutler	& Smithy
86	Storrs	Shaw	George	-	2		yeoman	*son apprenticed in 1645*

Table 8.4 Smithy owners and identified taxpayers in Waldershelf and Westnall Hearth Tax returns. Cutlers' Company records and inventory details are given in italic.

Several entries have been identified from the apprenticeship details, but the picture is unsatisfactory because some apprenticeships are dated years after the Hearth Tax returns and agricultural workers may have moved around. In addition, some apprenticeship entries are not specific, giving only the word 'Bradfield' as the place of origin, which might indicate anywhere in the chapelry. In the decades up to and including the 1670s, there were seventy-three apprenticeships arising from boys in

the whole of the Bradfield chapelry. Their backgrounds were predominantly agricultural, including husbandmen, yeomen, woodcutters plus other parents who worked with wood – carpenters, wood colliers and coopers. Not surprisingly, the identification of some of the 1672 taxpayers in the apprenticeship records reveals an involvement in agriculture, with a few other craftsmen such as the necessary blacksmith, plus a weaver and tailor. The additional data in Table 8.4 shows very few established cutlers in these two areas. The three cutlers in Waldershelf, none with a smithy, were middle-aged men and the local fathers did not send any of their sons to any of them. One important local craft was not represented in the apprenticeship records - that of glassmaking. Bolsterstone had a glass furnace by the time of the Hearth Tax returns,[3] but a glassmaker's son was not enrolled as a cutlery apprentice until John Marsden in 1740.

In Westnall, only three of the six smithy hearth owners have been identified; they were two cutlers and a blacksmith. The two cutlers each had one smithy hearth and possibly supplied four identified cutlers either with blades or with time in their smithy. Unusually, three of the smithies were listed separately; that is, the owners were not taxed for domestic hearths, though their surnames possibly suggest they were living with other family members. The six middle-aged cutlers were well scattered. There may have been other cutlers, but in this area and in the chapelry as a whole, several surnames were quite common, and prevent definitive identification. The Ibbersons (Ibbotsons), Drabbles, Hawksworths, Hagues and Dungworths were widespread families and the names confuse the picture.

smithies		others	
cutlers		women	

Table 8.5 The colours used in the distribution graphs in Figure 8.2. The other occupations in Westnall included a blacksmith, gentleman, joiner, tailor, yeoman and three husbandmen. In Waldershelf there were four husbandmen, a weaver and possibly a blacksmith

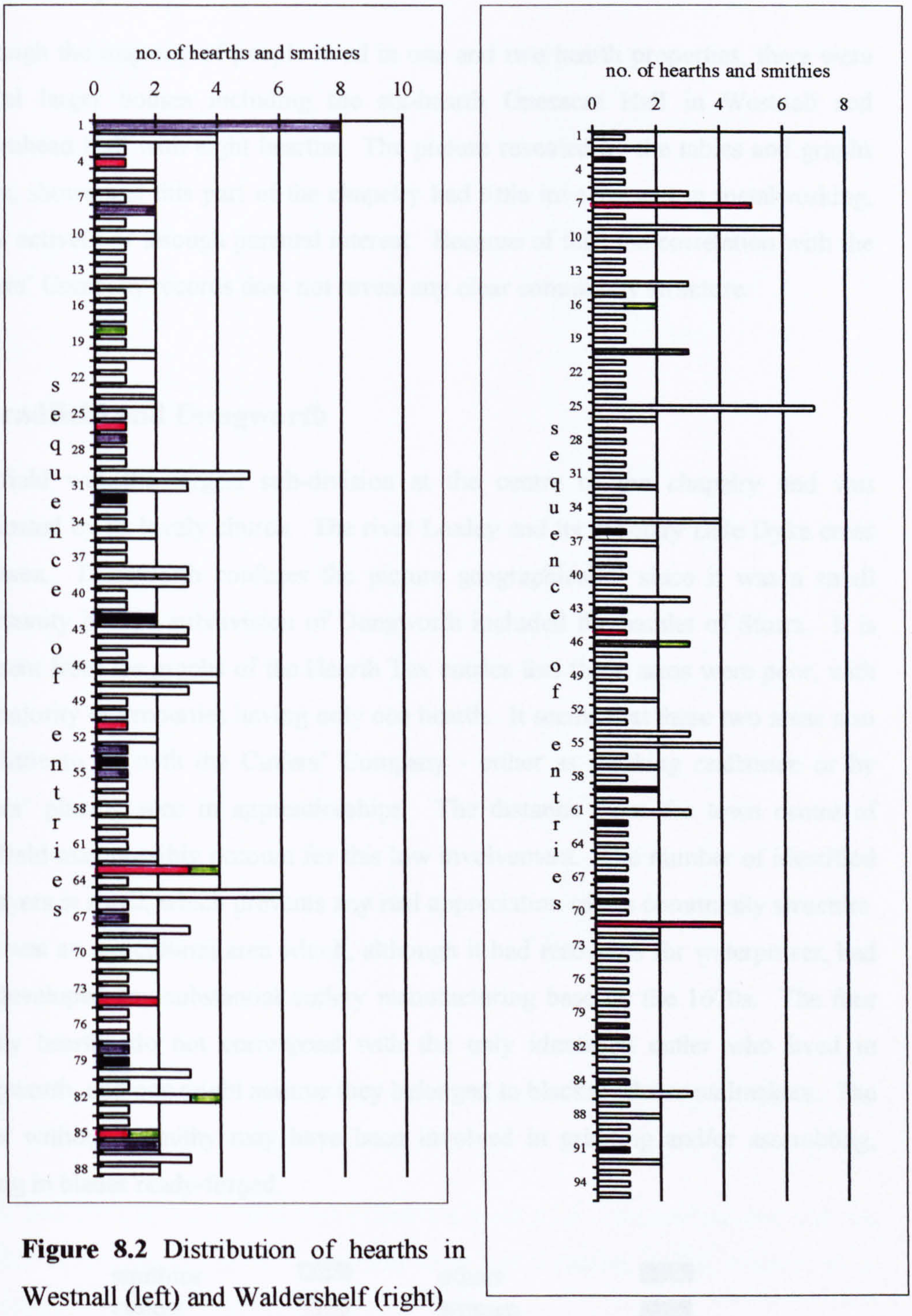


Figure 8.2 Distribution of hearths in Westnall (left) and Waldershelf (right)

Summary

Although the majority of people lived in one and two hearth properties, there were several larger houses including the six-hearth Onesacre Hall in Westnall and Broomhead Hall with eight hearths. The picture revealed by the tables and graphs above, shows that this part of the chapelry had little involvement in metalworking, either actively or through parental interest. Because of this, the correlation with the Cutlers' Company records does not reveal any clear community structure.

Bradfield and Dungworth

Bradfield was the largest sub-division at the centre of the chapelry and was dominated by its lovely church. The river Loxley and its tributary Dale Dyke cross this area. Dungworth confuses the picture geographically, since it was a small community but the subdivision of Dungworth included the hamlet of Storrs. It is apparent from the graphs of the Hearth Tax entries that these areas were poor, with the majority of properties having only one hearth. It seems that these two areas also had little to do with the Cutlers' Company - either as working craftsmen or by fathers' placing sons in apprenticeships. The distance from the town centre of Sheffield may possibly account for this low involvement. The number of identified taxpayers is small, which prevents any real appreciation of the community structure. This was an agricultural area which, although it had resources for waterpower, had not developed any substantial cutlery manufacturing base by the 1670s. The four smithy hearths do not correspond with the only identified cutler who lived in Dungworth, and one might assume they belonged to blacksmiths or nailmakers. The cutler without a smithy may have been involved in grinding and/or assembling, buying in blades ready-forged.

smithies		others	
cutlers		women	

Table 8.6 The colours used in the distribution graphs.

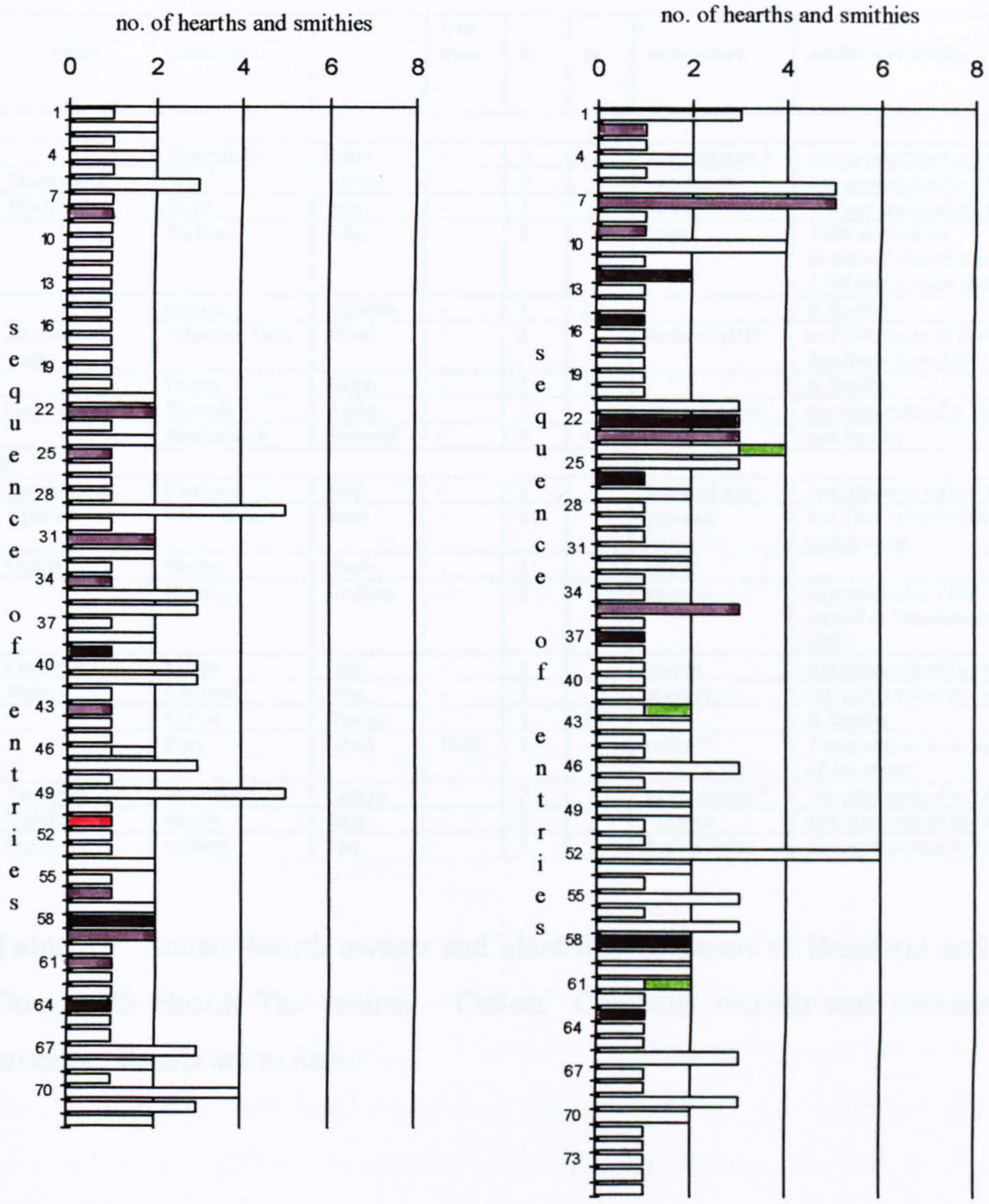


Figure 8.3 Identified taxpayers in the Hearth tax for Dungworth (left) and Bradfield (right), 1672.

Status and occupations in Bradfield included a gentleman, a joiner, labourer and two possible husbandmen and in Dungworth there was a mason, miller, weaver, three husbandmen and three yeomen.

sequence in Hearth Tax	Place	surname		free-dom	h	m	occupation	additional details
Bradfield								
2		Smalefeild	John	-	1		husbandman ?	*son apprenticed in 1661*
7	Stannington	Ward	Robert	-	5		gentleman	*son apprenticed in 1677*
9	Bradfield	Gold	John	-	1		labourer	*son apprenticed in 1677*
23		Parkins	John	-	3		joiner	*1699 worked on Bradfield church died 1705 had 8 room house*
24		Ibotson	Nicholls	-	3	1	-	& Smithy
35	Handsworth bank	Adamson Sen.	Edwd	-	3		husbandman?	*in 1654 tenant of Low Bradfield Corn Mill*
42		Hoyle	Ralph	-	1	1	-	& Smithy
47	Pears House	Worrall	Antho.	-	1		no occupation	*son apprenticed in 1677*
61		Brumehead	Reynold	-	1	1	-	and Smithy
Dungworth								
8	Broomhouse	Fanshaw	John	-	1		husbandman	*son apprenticed in 1677*
22	Ughill ?	Marriott Sen.	John	-	2		yeoman	*son Thos inherited the Ughill estate*
25	Ughill	Barber	Steph.	-	1		miller	
31		Rowley	Godfrey	-	2		weaver	*apprenticed in 1614 settled in Trouthouse in 1662*
34	Corker Wall	Hoyle	Hen.	-	1		mason	*son apprenticed in 1677*
43	Storrs	Hoyland	John	-	1		yeoman	*son apprenticed in 1672*
46		Gillot	George	-	1	1	-	& Smithy
51		Eyre	Edwd	1645	1		cutler ?	*2 apprentices to a man of this name*
57	Townend	Hoyland	George	-	2		husbandman ?	*son apprenticed in 1677*
59	Ughill	Bacon	John	-	2		yeoman	*son apprenticed in 1655*
61	Storrs	Cutbert	Tho.	-	1		husbandman	*son apprenticed in 1646*

Table 8.7 Smithy hearth owners and identified taxpayers in Bradfield and Dungworth Hearth Tax returns. Cutlers' Company records and probate inventory details are in italic.

Summary

The data available from the correlation of the apprenticeship records of the Cutlers' Company and the Hearth Tax returns for Bradfield and Dungworth, 1672, shows little evidence for the manufacture of cutlery. The area was remote from Sheffield, from suppliers of metal (though Wadsley forge was not too far away), handle material and from the markets. Evidence from other parts of Hallamshire at this time appears to place cutlers, etc. in sizeable communities or ones with a stable group of core families involved in the trades. These factors provide a focus for apprentices and a base for the expansion of the industry. Many of the local boys who wished to become cutlers had to leave the area for training, since the scattered

hamlets and farms had very few masters in the 17th century. Less than half the local masters had their own smithies, but they did have water-powered grinding facilities on the Loxley.

Stannington

The Stannington area of farms and small hamlets lay between the rivers Loxley and Rivelin, in the south-east part of Bradfield chapelry. There were more cutlers in this area than in the rest of Bradfield, as well as more interest by fathers apprenticing sons in the trades. It is possible to identify a few specific areas; the cutlers listed third and fourth in the Hearth Tax were at Malin Bridge, one having a smithy hearth, as did the cutler listed eighth, presumably also near Malin Bridge. The smithy hearth at entry number 35 belonged to a blacksmith. Mousehole forge at Malin Bridge must have provided employment for labourers and metalworkers, though none was identified in the Hearth Tax return for Stannington. Here as elsewhere, there were cutlers without smithy hearths.

The identification of taxpayers and occupations has been more successful for this part of the chapelry. Cutlers were apprenticing their sons to the trade and there seem to have been close links with the adjacent Wadsley area. Stannington boys were apprenticed there and several Wadsley-trained men migrated to Stannington. This might be more of an apparent movement, since this conclusion depends on the accurate recording by the Cutlers' Company of placenames.

sequence in Hearth Tax	surname		free-dom	h	sm	occupation	additional details
3	Lord	Edwd	a1655	1		cutler	*son of Robert, smelter of Malin Bridge apprenticed to Ralph Lord,cutler, Malin Bridge*
4	Fenton	Fran.	1646	1	1	cutler	& Smithy, *son of William, linen weaver of Wadsley, trained in Birley Carr*
5	Barber	Fran.	-	2		labourer /husbandman	*Wadsley/Stannington border; son apprenticed in 1682*
7	Oates	John	-	1		mason	*son apprenticed in 1687*
8	Mariott	George	1664	1	1	cutler	Smithy;, *apprentices in 1688*
9	Dungworth	Jos.	-	1		labourer	*son apprenticed in 1681*
12	Wheatley	John	-	1		cooper	*barrels and ale in inventory, farm stock, wood, 1701*
16	Dungworth	Wm	1639	2		cutler	*son of John, cutler, Stannington*
17	Dungworth	Tho.	1657	2		cutler	*in 1676 renting part of Rivelin wheel with Abraham Bright, inventory 1696*
20	Hoyland	Fran.	-	1		yeoman	*son apprenticed in 1685*
21	Crapper	Wm	-	1		labourer /woodcutter	*son apprenticed in 1677*
22	Dungworth	Fran.	-	1		husbandman	*son apprenticed in 1679 to Jonathan Bromely, son of Edward (entry 62)*
23	Bockin	Wm	-	2		yeoman	*son apprenticed in1681*
25	Booth	Hen.	-	1		tailor	*son apprenticed in 1682*
30	Wainewright	John	a1641	1		cutler	*son of George, husbandman to George Hobson, Wadsley bridge*
31	Creswick	Wm	-	1		husbandman	*son apprenticed in 1690*
35	Bramall	Rowland	1654	1	1	scissorsmith	& smithy; *son of Edward, husbandman, Stannington (entry 63)*
42	Iberson	Wm	-	1		yeoman	*son gained freedom 1655*
46	Creswick	Tho.	1641	5		cutler	*possibly son of Francis, cutler, Stannington*
49	Greaves	Richd	-	3		yeoman	one of these not Lyable but unfinished *son apprenticed in 1674 d.1689, had house and shop to his son Richard,; land, malt, wood, total £382*
50	Hawksworth	Chr.	-	1		yeoman	*two sons apprenticed in 1691; inventory, 1697*
51	Creswick	Tho.	1670	1		cutler	not finished; *son of Thomas. cutler, Stannington*
52	Bramley	Edwd	-	2		yeoman	*[Bromeley]son apprenticed in 1668*
58	Bramold	Rowland	-	1		husbandman	*son Edward apprenticed in 1675 to a Sheffield scissorsmith*
63	Bramald	Edward	-	2		husbandman	*son Rowland(entry 35)apprenticed in 1646*
68	Trickitt	Hen.	-	2		mason	*1712 inventory, poor, £4.6.0, with tools*
81	Brumhead	John	-	3		miller	Miller

Table 8.8 Identified taxpayers and smithy hearth owners in the Stannington area, 1672. Cutlers' Company and inventory details are in italic.

smithies		others	
cutlers		women	
scissorsmiths			

Table 8.9 The colours used in the distribution graph in Figure 8.4

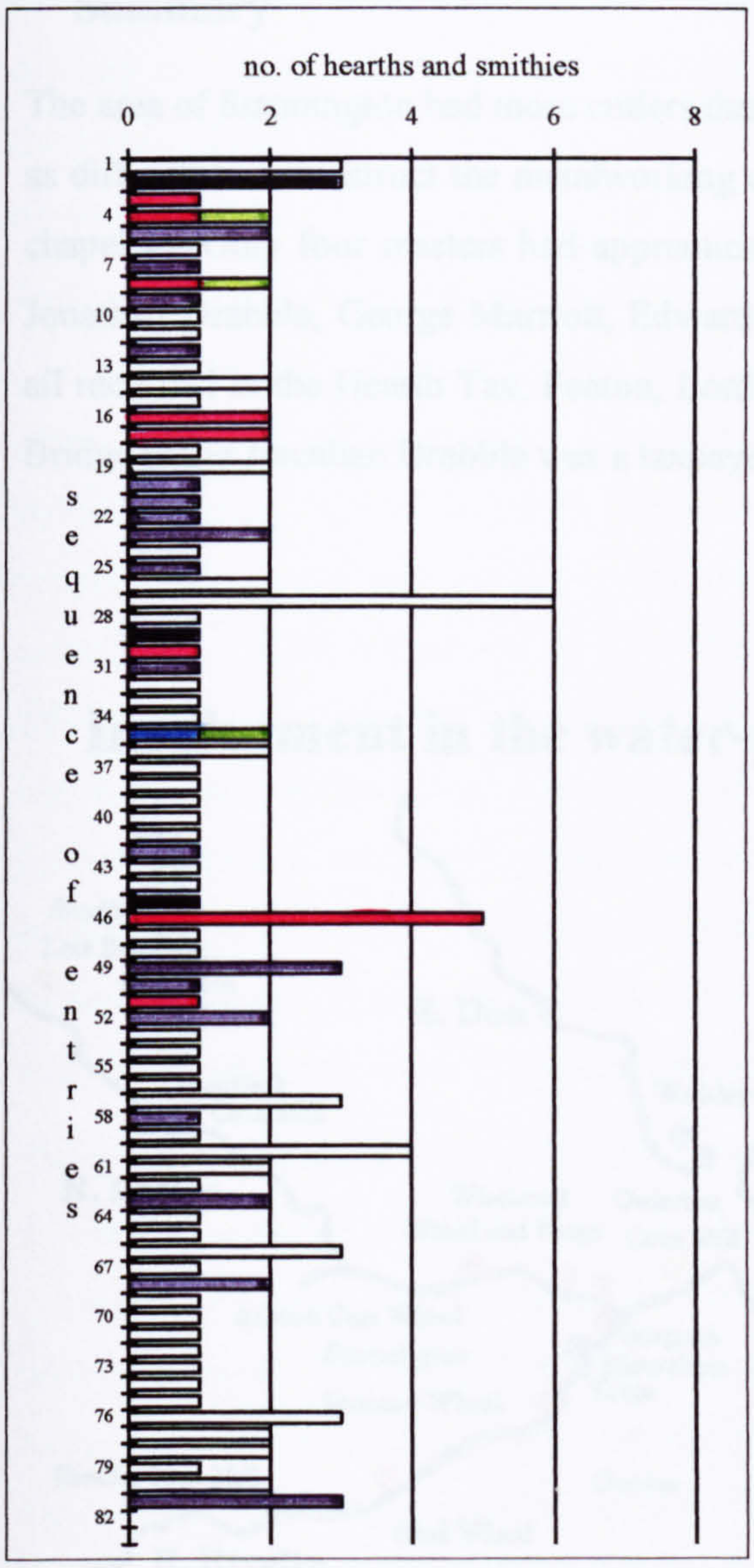


Figure 8.4 Distribution of smithy hearths and identified taxpayers in the 1672 Stannington Hearth Tax. .

Other occupations in Stannington included : a cooper, a woodcutter, a miller, a tailor, two labourers, six husbandmen and six yeomen.

Summary

The area of Stannington had more cutlers than any other part of the chapelry, but it is as difficult to reconstruct the metalworking community here as in other parts of the chapelry. Only four masters had apprentices beginning between 1668 and 1674 – Jonathan Drabble, George Marriott, Edward Lord and Richard Fenton. They were all recorded in the Hearth Tax, Fenton, Lord and Marriott were in the area of Malin Bridge while Jonathan Drabble was a taxpayer at Low Ashe in Westnall.

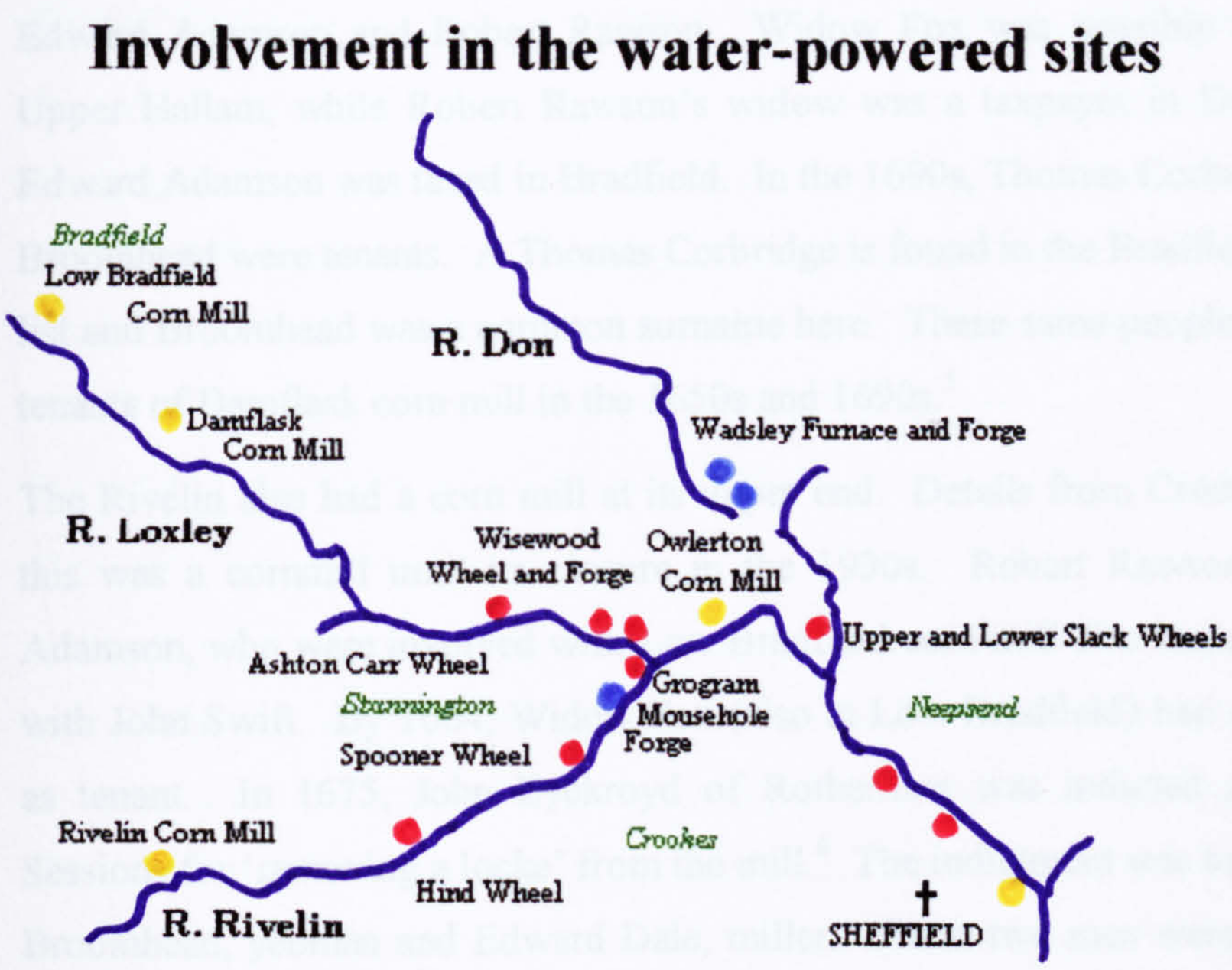


Figure 8.5 The water-powered sites on the Loxley and Rivelin by the 1680s. red = grinding, yellow= cornmilling, blue = metalworking

One of the distinctive features of the Hallamshire cutlery industry was the important resource of water-power. The rivers of Sheffield eventually provided the most concentrated use of water-powered machinery in England, but in the seventeenth

century, the rivers were under-exploited and the areas of Hallamshire close to the existing sites were not necessarily large centres of cutlers. This is particularly true for parts of Bradfield chapelry, which had the rivers Loxley, Rivelin and Don within or on its borders.

Reflecting the agricultural involvement of the area, there were several water-powered corn mills. The Loxley had two corn mills, one at Low Bradfield and one at Damflask, and although Ashton Carr was built as a cutlers' grinding wheel in the sixteenth century, there is evidence that in the mid-seventeenth century, it had been converted to a corn mill, being changed back by the beginning of the eighteenth century.[4] In 1654, the tenants of Low Bradfield corn mill were the widow Fox, Edward Adamson and Robert Rawson. Widow Fox was possibly a taxpayer in Upper Hallam, while Robert Rawson's widow was a taxpayer in Dungworth and Edward Adamson was taxed in Bradfield. In the 1690s, Thomas Corbridge and John Broomhead were tenants. A Thomas Corbridge is found in the Bradfield Hearth Tax list and Broomhead was a common surname here. These same people were also the tenants of Damflask corn mill in the 1650s and 1690s.[5]

The Rivelin also had a corn mill at its upper end. Details from Crossley show that this was a commill until its closure in the 1930s. Robert Rawson and Edward Adamson, who were involved with Low Bradfield corn mill also leased Rivelin mill with John Swift. By 1664, Widow Fox (also at Low Bradfield) had replaced Swift as tenant. In 1675, John Eyckroyd of Rotherham was indicted at the Quarter Sessions for 'removing a locke' from the mill.[6] The indictment was brought by John Broomhead, yeoman and Edward Dale, miller. These two men were both taxed in the Upper Hallam return, 1672.

Turning from corn to metalworking, Crossley summarises the complex site of Wisewood scythe wheels and forge on the Loxley as being three cutlers wheels in 1531, which may or may not have been the same site as the four scythe wheels sold to George Bamforth of Owlerton in 1672. It is interesting that these were referred to as scythe wheels, which would have had large diameter stones – not particularly suitable for other grinders. The notable area for scythemaking was further south in the parish of Norton, using the power of the river Sheaf. However, there were

references to scythe grinding on the Loxley (see Chapter Three) but the Cutlers' Company records provide little evidence for such activities in this area. Edward Brownell and Richard Bingham of Cliffe Field, Bradfield, registered their marks in 1681 when the scythesmiths joined to Company, though neither was in the 1672 Hearth Tax. Not until the end of the eighteenth century were sons of local scythesmiths and scythegrinders being apprenticed to cutlers, etc., by which time the scythesmiths had left the Company. Although local cutlers might require water-powered grinding facilities, they were not in sufficient numbers to provoke the speculative construction of grinding wheels. It is strange that the number of identified cutlers in the whole of Bradfield chapelry is less than twenty but that Wisewood wheel provided specialised grinding facilities for scythesmiths.

The sites on the Rivelin have already been detailed in Chapter Seven. These wheels would have been accessible to the cutlers in the Stannington area and it is perhaps significant that although the numbers are small, there were more cutlers in this area than elsewhere in the chapelry. They seem to have been concentrated around the Malin Bridge area at the confluence of the Rivelin and Loxley but there is little evidence to show their involvement in leasing wheels, though obviously casual use of the facilities is not recorded.

Although there were relatively few grinding facilities in the seventeenth century, the two rivers saw massive investment in the following century, resulting in very intensive use. The effect of this expansion on the local industry appears impressive. The numbers of masters and apprentices increased sharply after the 1720s, which may be in response to the improved facilities or may be the natural expansion, which took place everywhere at this time.

The numbers of sites on the two rivers have been summarised in Chapter Three, and in the maps in Appendix B1-B5. Based on data published by Crossley, the involvement in the leases by local men will now be explored. [7]

	Rivelin				Loxley			
	g	c	m	o	g	c	m	o
1690	1	-	-	-	3	-	-	-
1695	-	-	-	-	-	-	-	-
1700	-	-	-	-	-	-	-	-
1705	-	-	-	-	1	-	-	-
1710	-	-	-	-	1	-	-	-
1715	1	-	-	-	-	-	-	-
1720	3	-	-	-	3	-	-	-
1725	1	-	-	-	-	-	-	-
1730	1	-	-	-	2	-	-	-
1735	3	-	-	-	2	-	-	-
1740	2	-	-	-	1	-	-	1
1745	-	-	-	-	1	-	-	-
1750	2	-	1	-	1	-	-	-
1755	1	-	-	-	-	-	-	-
1760	-	-	-	-	-	-	-	1
1765	-	-	-	-	-	-	-	-
1770	-	-	-	-	-	-	-	-
1775	-	-	-	-	-	-	-	-
1780	-	-	-	-	-	-	1	1

Table 8.10 The numbers of 'new' sites on the rivers Rivelin and Loxley, 1690-1784, based on the earliest surviving documents. g = grinding; c = corn milling; m = metalworking; o = other.

Table 8.10 shows that the majority of newly recorded sites were for grinding, most being constructed between 1720 and 1755 and the graph in Figure 8.6 shows the cumulative number of grinding wheel sites on the two rivers, which reached their maximum of thirty-six by the 1750s. The grinding facilities were almost equally divided between the two rivers, though on the Loxley, they were more spread out along the river. The Hearth Tax areas which could most easily benefit from these wheels were the northern part of Nether Hallam, including Crookes, Walkley, Cloughfield and Steel Bank; Stannington, Dungworth, Bradfield in the Bradfield chapelry and Wadsley in Ecclesfield parish. The effect on the cutlery industry in these areas will be considered below.

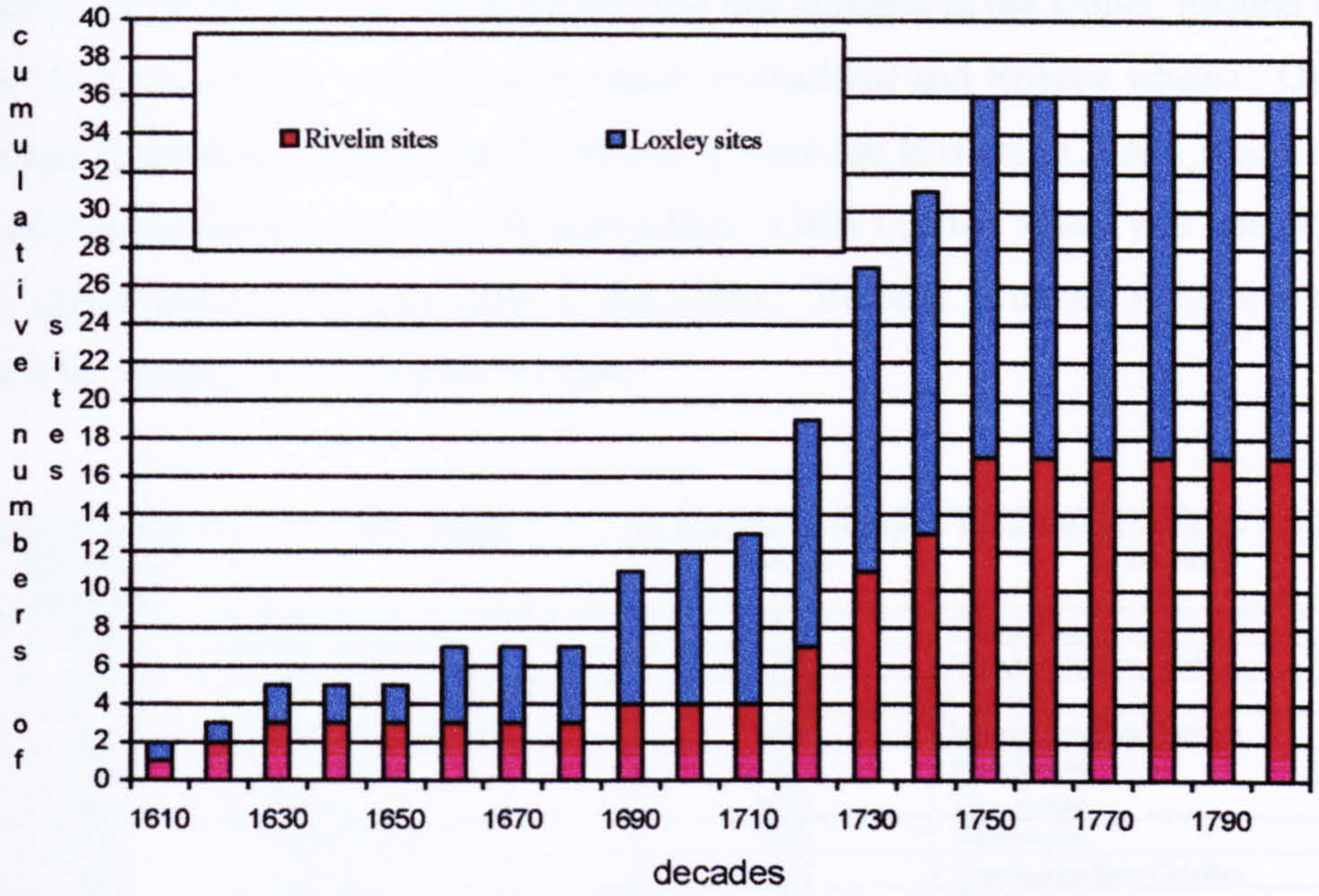


Figure 8.6 Graph showing the cumulative number of water-powered grinding wheels on the rivers Loxley and Rivelin, in the seventeenth and eighteenth centuries.

The grinding wheels

The Rivelin grinding wheels

It has been possible to identify several tenants of the eighteenth century wheels and it appears that wheels were tenanted either by the men from the Crookes side of Rivelin valley or from the Stannington side; rarely was a site shared. Although Stannington men were involved at the outset of a site, it was often taken over by the Crookes men. In Chapter Seven, the tenants of the earlier Rivelin wheels were given

as the Websters and Spooners, both from the Crookes side of the valley. The Spooner family of Crookes was dominant and had interests in the Upper, Second and Third Coppice wheels; Little London wheel; Holmehead and Roscoe wheels. Other Crookes families involved in the Rivelin sites were the Bowers at Plonk wheel and the Bradshaws and Hooles at the Roscoe wheel. Little London wheel was one of the sites shared between the two sides of the valley. Richard Greaves of Stannington shared the tenancy with Thomas Spooner.

numbered site on the maps in Appendix B	River Rivelin	earliest documentary evidence	Valley side on which the identified tenants lived
R01	Uppermost wheel	1751N	Stannington
R03	Upper coppice wheel	1736	Stannington then Crookes
R04	Second coppice wheel	1736	Crookes
R05	Third coppice wheel	1758	Stannington then Crookes
R06	Frank wheel	1737	Stannington
R07	Wolf wheel	1722	Stannington
R08	Swallow wheel	1692	Stannington
R09	Plonk wheel	1737	Stannington then Crookes
R10	Hind wheel	1581	Crookes
R11	Upper cut wheel	1749	Stannington
R12	Nether cut wheel	1719	
R13	Little London wheel	1752	Stannington then Crookes
R14	Holme Head wheel	1742	Stannington then Crookes
R15	Roscoe wheel	1725 N	Crookes
R17	Spooner wheel	1637	Crookes
R18	Rivelin Bridge wheel	1724	
R19	Walkley Bank wheel/tilt	1751 N	Stannington
R21	Grogram wheel	c1620	

Table 8.11 The grinding wheel sites on the Rivelin, with the earliest surviving documentary date. N = new site. (taken from the full listing in Appendix C).

Joseph Holmes of Bradfield was the first tenant of Walkley wheel, which was subsequently converted to a tilt. Joseph Swallow of Stannington was initially at the Plonk wheel, training Richard Marshall who then became the tenant of Wolf and Frank wheels, where his apprentice, Francis Townend from Abney, succeeded him. The tenancy of Wolf Wheel, after Marshall, passed to sickle makers, Elizabeth Inkersall and Luke Staniforth of Mosborough and Hackenthorpe, but it is hard to imagine it was for their own use. Non-metalworking people were also involved as tenants of Rivelin wheels. Robert Walker, a baker, shared the tenancy of Plonk Wheel with the Bowers of Crookes. As well as Elizabeth Inkersall, another woman,

Margaret Dixon of Crookes, was a tenant of the Second Coppice wheel. She may have been related to the Nathan Dixon, cutler (F1724), who went on to train one of the Joseph Swallows of Stannington.

Between the 1670s and the 1720s, the Swallow and Nethercut Wheels were built for grinding. The earliest recorded tenant of Swallow Wheel was Hugh Lockwood, but by the end of the seventeenth century, Joseph Swallow was tenant. He was followed by others of the same name, until Nathan Dixon (the master of Joseph Swallow, F1768) held it in trust for younger Swallows. Robert Howe and John Dale were the last tenants in the eighteenth century, but unfortunately, there are several men with these names and particular individuals cannot be distinguished. Nethercut Wheel was initially taken by Edward Nichols of Stannington, who later took Uppermost Wheel. Nethercut, immediately below Uppercut, was then taken over by tenants, Matthew and William Parker.

Summary

Almost all the identified tenants were cutlers – no scissorsmiths or filesmiths - and even the names of those not conclusively identified, could have belonged to cutlers. It does appear that the men of the Crookes side of the Rivelin valley dominated the tenancies of the early Rivelin wheels and took over from Stannington men at some of the later one. There were more cutlers in the Crookes area in the seventeenth century and possibly this earlier dominance continued, but this is not to imply that craftsmen from each side could not work in any particular wheel.

The Loxley grinding wheels

The details of the Loxley wheels' tenancies show a more confusing picture than that presented for the Rivelin. The Rivelin, which runs between the townships of Nether Hallam and Stannington, attracted local craftsmen with the exception of the interest from the sicklesmiths of Hackenthorpe, to the south east of Sheffield. The Loxley ran through Bradfield chapelry only and one might expect the sites to have been

tenanted exclusively by the men from Stannington, Dungworth and Bradfield – assuming of course, they had finances to pay the leases. However, many of the documents detail the occupations of the tenants (unlike the Rivelin leases) and reveal that non-local craftsmen dominated the scene.[8]

numbered site on the maps in Appendix B	River Loxley	earliest documentary evidence	Location of identified tenants
L03	Damflask wheel	1750	Sheffield
L04	Stacey wheel	1749	
L05	Storrs Bridge wheel	1720	Bradfield, Sheffield
L06	Old wheel	1690	Bradfield, Stannington, Upper Hallam
L07	Rowell Bridge wheel	1734N	Stannington
L10	Olive wheel	1714-16	Bradfield
L11	Cliff wheel	1737	Wadsley, Eckington
L12	Low Matlock wheel	1732	Stannington, Wadsley
L13	Ashton Carr wheel	1549	Wadsley (eighteenth century)
L16	Broadhead wheel	1740	Wadsley
L17	Wisewood scythe wheel	1664	Wadsley
L19	Malin Bridge wheel	1739	Bradfield
L20	Turner wheel	1697	Bridgehouses, Sheffield, Stannington
L21	Limbrick wheel	1723	Sheffield
L23	Owleton lower wheel	1722	Sheffield

Table 8.12 The grinding wheel sites on the Loxley, with the earliest surviving documentary date. N = new site. (taken from the full listing in Appendix C).

Malin Stacey of Bridgehouses and James Justis of Sheffield were the first recorded tenants of Turner and Limbrick wheels respectively, while Samuel Norris and John Fox, Sheffield razor grinders, were at Damflask wheel. Craftsmen from Wadsley were involved at Ashton Carr, Cliffe and Broadhead wheels and Stannington men were at Old wheel, Storrs and Rowel Bridge wheels. Once again, there was later interest from the sicklesmiths. John Booth and Joseph Hutton of Ridgeway, Eckington, took the lease of Cliffe Wheel at the end of the eighteenth century. This confusing picture may result from the initial smaller involvement by local men, allowing the 'outsiders' to establish a foothold.

The grinders

Not surprisingly, several of the Loxley tenants were described as 'grinders', which prompted a search of the apprentices' database for occupations of parents and

masters describing themselves by this specific term. Some of the craftsmen described their grinding of specific items, while others simply had the generic term of grinder.

craft of the masters	number of apprenticeships	earliest date and place	main locations
knife grinders	424	1765 (Crookes)	Sheffield, 150; Lower Hallam, 114; Stannington, 44; Brightside, 38
cutler grinders	409	1733 (Sheffield)	Sheffield,109; L. Hallam,86; Stannington,52
scissor grinders	168	1764 (Sheffield)	Sheffield, 121; Brightside, 27
razor grinders	114	1768 (Sheffield)	Sheffield, 61; Stannington, 25; Brightside,15
file grinders	57	1763 (Sheffield)	Sheffield, 27
fork grinders	49	1782 (Clay wheels)	Sheffield, 36
grinders	26	1729 (Sheffield)	Lower Hallam, 10
table blade/table knife grinders	4	1783 (Upper Hallam)	Upper Hallam, 2; Lower Hallam, 1
penknife grinders	3	1790 (Sheffield)	Sheffield, 3
scythegrinders	*3*	*1776 (Sheffield)*	*Sheffield, 2*
shear/sickle grinders	2	1796 (Little Sheffield)	Ecclesall, 1; Handsworth,1

Table 8.13 Analysis of masters' occupations shown in apprenticeship records.

A search of the database reveals some errors in Leader's published list, especially relating to scissorgrinders. It was exciting to find a reference to early specialist scissor grinders in 1696 and 1710. However, the apprentice in 1696 actually went to a scythegrinder, the printing mistake probably arose when Leader's abbreviations of 'scygr' and 'scgr' were confused. The 1710 apprentice went to a man trained as a cutler, so no explanation for this error can be given. The earliest confirmed scissorgrinder was Thomas Bullivant, scissorsmith (F1763) who took his first apprentice in 1764. Similarly, the three apprentices to scythegrinders in the 1770s-1790s were actually to scissorgrinders. The scythesmiths had long since left the Cutlers' Company and therefore would not have indentured any of their apprentices through the Company.

The largest group of grinders was the cutler/knifegrinders and the principal areas were Sheffield, Nether Hallam and Stannington. Specialist grinders of forks, razors and penknives were also listed. Overall, 1,276 apprenticeships were registered to

grinders, only a quarter of these resulted in freedoms. The majority of apprenticeships to all types of grinders went to:

Sheffield	611
Lower Hallam Township	228
Stannington	126
Brightside Bierlow	111
Ecclesall Bierlow	55.

Smaller numbers of apprenticeships went to grinders in Ecclesfield, Southey, Upper Hallam, Wadsley, Bradfield and Westnall. This evidence suggests that the water-powered facilities accessible to the Lower Hallam and Stannington men did influence their choice of work. However, the availability of waterpower in Ecclesall and Attercliffe did not have much effect, in that significant numbers of men were not calling themselves grinders.

Similar results are found if the occupations of the apprentices' fathers are analysed. More men described themselves simply as 'grinder' and the search revealed the extent of scythe grinding as a separate craft. The earliest reference to this was in 1632 at Gleadless and the total number of such men was forty-two. These results are not reflected in the figures for apprenticeships in Table 8.13 because scythesmiths were only in the Cutlers' Company as masters for a short time, 1681-c1729, but scythesmith fathers sent their sons to cutlers for the whole of the period, 1620s to 1820s. The anomalous record of three master scythegrinders in the 1770s – 1790s, was checked and revealed that the men were in fact scissorsmiths, so the three have been added to the numbers of scissor grinders. The majority of the parents, who were scythegrinders lived south west and south east of Sheffield, but eight sons of scythegrinders came from Stannington/Bradfield/Malin Bridge, an area not generally recognised as being involved in the scythe trade.

This evidence for the separate trades of grinding demonstrates the fragmentation, or specialisation, developing in the cutlery industry. The existence of water-powered sites does not seem to have influenced this specialisation (apart from the scythe trade) until the eighteenth century. However, this apparent specialisation may be the result of trade terminology and that the majority of earlier specialist grinders

continued to describe themselves as cutlers, etc. It may be that this process of specialisation was linked to the increase in water-powered grinding facilities and that with a sufficient number of men spending more of their time grinding, they chose to call themselves grinders.

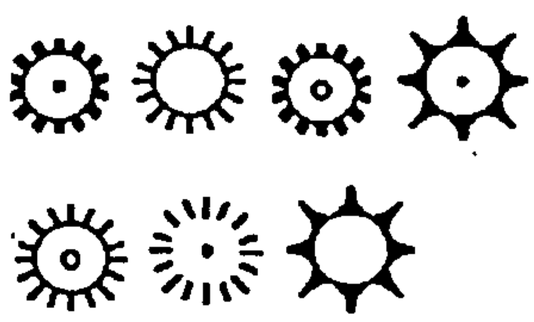
Interestingly, and of relevance to this study, hardly any men termed themselves 'forgers'. Any parent so called was generally associated with heavy tilt forging facilities. Only three masters called themselves a specialist forger. One man, Thomas Clarke, was trained by a cutler, but called himself a forger. James Downes, son of a skinner from Masborough took an apprentice in Attercliffe in 1777, describing himself as a cutler forger. He was trained by John Beardshaw, a forkmaker at Blackburn moor. Perhaps he was forging forks; his apprentice certainly described himself a forkmaker when he subsequently took his own apprentice. Finally, the case of Robert Foster is more confusing. There were two men, one from Hackenthorpe, gaining their freedoms in 1804 and 1813. Both were trained by *scissorgrinders* ! Yet when one of the Fosters took an apprentice, he described himself simply as a forger. This confusion goes back to an earlier problem of what apprentices were trained to do.

Cutlers' Marks

One intriguing aspect of waterpower is found in the identifying marks of cutlers. The process of registering marks and the descriptive system that has been developed was explained in Chapter Two. From the database of cutlers' marks, those incorporating the symbol of a 'waterwheel' were extracted. The source of inspiration for any symbol used by cutlers is an interesting aspect of the study and it is too easy to read significance into their use. However, out of approximately 14,500 marks registered between 1614 and 1814, a 'waterwheel' symbol appears in 117, of which seventy-three are pre-1700. This is not so surprising since the use of symbols, rather than letters and words, was more common in the seventeenth century. Unfortunately, the records are not specific about the location of a majority of the

craftsmen with a waterwheel mark, but fifteen boys, who were trained in the Stannington/Bradfield/Wadsley area, chose to use it. The only other clearly identifiable location with as many examples is that of Wincobank and Shiregreen in the Brightside Township (close to the Blackburn Brook). Other areas having a reasonable supply of water-powered sites in the seventeenth century, such as Heeley, Attercliffe or Little Sheffield, do not show such a fondness for the symbol.

Table 8.14 shows the apprentices with their masters. The similarity of marks cannot be a coincidence and perhaps suggests an interest in the structure of water-powered site, the novelty of such sites or their importance in the cutlers' lives. However, before hard and fast conclusions can be drawn, it must be made clear that the symbol of the waterwheel is usually depicted in the same manner – i.e., with paddles visible around the edge. This design, as portrayed by the cutlers, is an inefficient undershot wheel, usually operating in the lower reaches of rivers, with a fall of water of only two to three feet. The records for the Sheffield's water-powered sites rarely indicate the types of wheel, but they can be deduced from the available fall. In the Sheffield area at this time, undershot wheels were to be found mainly on the River Don below Sheffield. It is likely therefore that the drawing was a stereotypical version of a waterwheel and not one commonly seen by these cutlers. The grinding wheels on the steeper sections of Sheffield rivers had overshot or breastshot wheels where the water wheel has buckets not paddles.



However, this small study does show a tendency for cutlers to follow trends in the marks used – either proclaiming their lineage to family or master, or demonstrating a lack of imagination. Of course, our interpretation that this symbol is a waterwheel may be completely wrong - the symbol may represent a spur rowel!

master		place	masters' marks	masters' F.date	apprentice		from	mark description	F. date
Dongworth	John	Stan'ton.	cross above water wheel	M1614	Greaves	Edward	Stan'ton.	cross above water wheel	1626
Hobson	Francis	Wadsley	cross above '4'	1627	Barker	Richard	Wadsley	water wheel above 'B'	1636
Hobson	George (father)	Wadsley bridge	chamber stick above water wheel	1626	Hobson	Henry	Wadsley bridge	chamber stick above water wheel	1640
Hobson	Henry	Worrall	chamber stick above water wheel	1640	Drabble	Jonathan	Ashe	trefoil above water wheel	1663
Hobson	Henry (father)	Worrall	chamber stick above water wheel	1640	Hobson	Henry	Worrall	finial above water wheel	1670
Dungworth	William (father)	Stan'ton.	trefoil	1639	Dungworth	Joseph	Stan'ton.	'T' above waterwheel	1675
Pearson	John (father)	Wadsley	*several of this name*		Pearson	William	Wadsley	'3' above water wheel	1678
Dungworth	John	-	heart above 'D'	1672	Swallow	Joseph	Stan'ton.	falchion.above water wheel	1686
Slack	Jonathan (father)	Owlerton	*not recorded*	1665	Slack	Jonathan	Owlerton	'8' above water wheel	1689
Creswick	James (father)	Wadsley	arrow above quatrefoil	1665	Creswick	Richard	Wadsley	chamber stick above water wheel	1689
Calton	Joshua	-	*not recorded*	-	Howard	Henry	Wadsley	water wheel above 'H'	1695
Beighton	Thomas	Storrs	arrow above 'G'	1681	Green	Robert	Storrs	water wheel above 'H'	1703
Greaves	John	Worrall	chamberstick above '7'	1672	Lowe	Richard	-	water wheel above 'LOW'	1719
Swallow	Jos. (father)	Stan'ton.	falchion above water wheel	1686	Swallow	Joseph	Stan'ton.	falchion above water wheel	1720
Green	Joseph	Stan'ton.	crescent above heart above 'P'	1728	Ransley	Henry	Lincs	chamber stick above water wheel above 'H' above heart	1745

Table 8.14 Apprentices trained in the Bradfield/Wadsley areas, who took a 'waterwheel' as part of their mark.

The variations on the 'waterwheel' symbol are shown above and the other symbols included in these marks, which might not seem immediately obvious are shown below. The naming of the symbols may seem idiosyncratic, but it was necessary to find a name which was more or less understand by interested collectors and curators, rather than people well-versed in heraldry, etc.

Left to right – chamberstick, finial, falchion and trefoil.

Therefore, the mark of Edward Greaves with the description as 'cross above waterwheel', appears thus. 

Identical marks were taken by sons from their fathers – Joseph Swallow (senior and junior) and George and Henry Hobson – and John Dongworth's apprentice took the same mark. Other apprentice designs often incorporated one element from the master. Henry Hobson's two apprentices used a waterwheel and Joseph Green's apprentice had a heart in his design. The design of marks can be used with discretion, as part of the identification of particular craftsmen, if they have similar names and locations.

The Effect of Water-power on Stannington

One recurring theme in this Chapter is the importance of waterpower availability and its impact on the development of the cutlery trades. If this were the main feature dictating success, then areas with easy access to such facilities might be expected to have had the largest manufacturing communities. In 1672, the areas with the most resources were to the west of Sheffield; in Ecclesall Bierlow, Lower Hallam, the southern part of Bradfield chapelry and adjacent parts of Wadsley and Southey. This is not shown in the Hearth Tax data, which locates most of the cutlery craftsmen in Sheffield Town and Attercliffe Township, and although they had some water-powered sites, were certainly not well-endowed with them.

The data from the apprenticeship records for the seventeenth century shows a general increase in the numbers of boys being trained, but this is not matched by any particular growth in the numbers of water-powered grinding wheels. The growth in waterpower comes at the end of the seventeenth century and especially in the mid-18th century, when it is matched with an overall increase in the numbers of apprenticeships. It is also matched by a rise in the general population. Therefore, is there any evidence to show the impact of water power on the location and increase in the cutlery trades ? Evidence might emerge from comparative studies of different areas of Hallamshire.

In Chapter Seven, the numbers and origins of apprenticeships recorded for Heeley were given in diagrammatic form. The diagram is repeated here for Stannington. Table 8.15 shows that Stannington had the ability to attract boys from a wide area, principally from the northeast and northwest, with a number coming from Sheffield. It must be remembered that where no place of origin is given in the records, it is assumed to be Sheffield, though this might not always be the case. It is clear that there was a great increase in the numbers of boys attracted to Stannington in the second period, after 1720, when many new water-powered sites were being built on the Rivelin and Loxley.

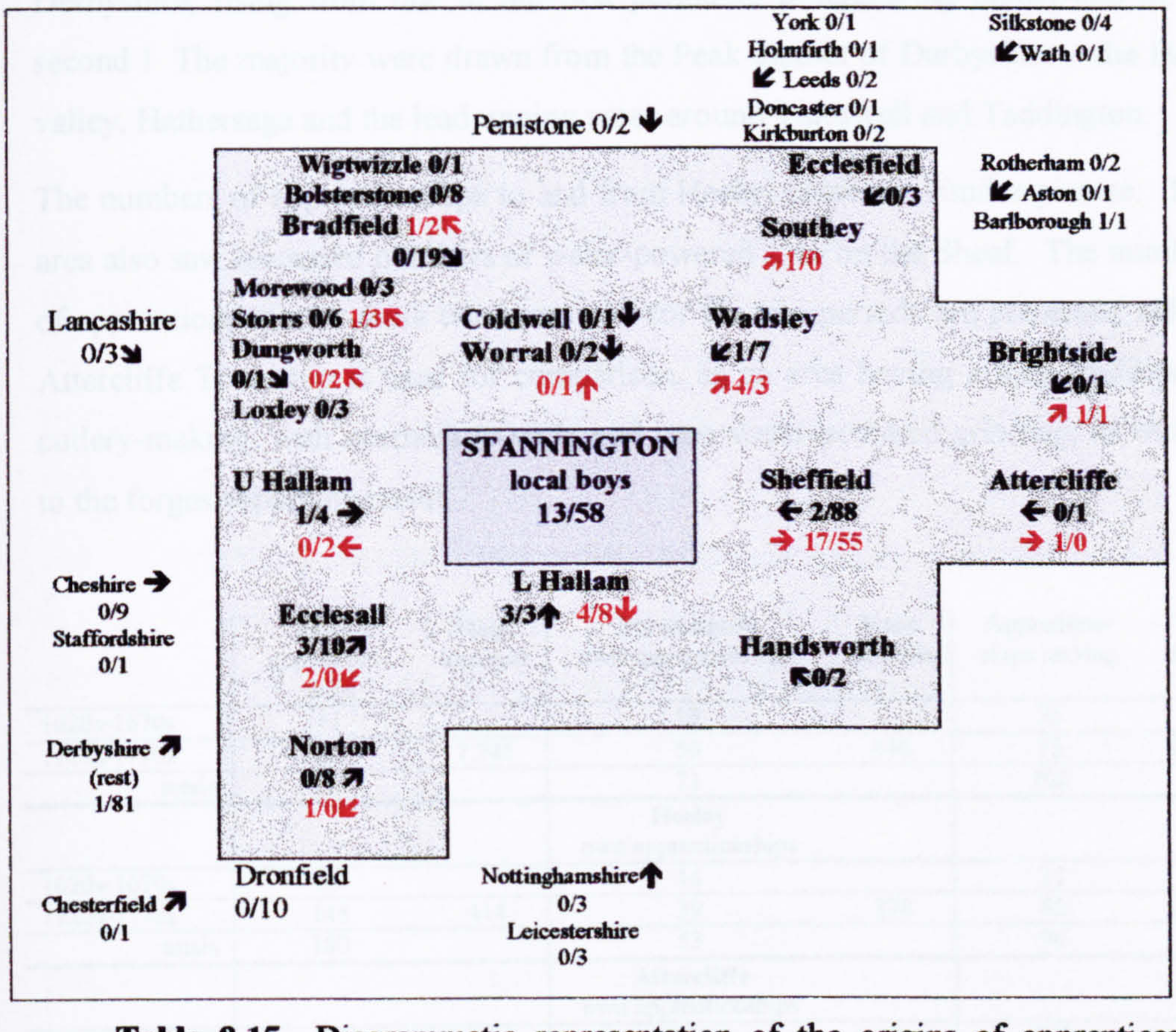


Table 8.15 Diagrammatic representation of the origins of apprentices to Stannington for two periods, 1624-1679 and 1720-1779. The first number in each pair refers to the first period. Numbers in red are for boys leaving Stannington to be trained. The shaded area is for Hallamshire and the areas within the Cutlers' Company sphere of influence.

The numbers of apprenticeships reflects the numbers of available masters and is taken here as an indication of a thriving and buoyant industry. The numbers of local boys being trained increases in the second period, as does the numbers who left the area, but this increase was not so large. This is interpreted as meaning that there was no massive population explosion, but that more masters were more prepared to take apprentices and incoming boys found the area attractive.

As might be expected, Sheffield provided more of Stannington's apprentices and Sheffield was the most popular place for Stannington boys to train, equal to their staying at home. However, one startling result is the number of boys coming from Derbyshire, rising from one in the first period to a staggering eighty-one in the second ! The majority were drawn from the Peak district of Derbyshire – the Hope valley, Hathersage and the lead mining areas around Tideswell and Taddington.

The numbers of apprenticeships to and from Heeley present a similar picture. That area also saw increased numbers of water-powered sites on the Sheaf. The numbers of apprenticeships for these two areas and for the two periods are presented below. Attercliffe Township is used for comparison, as an area having a long tradition of cutlery-making, with nearness to early and later water-powered grinding, as well as to the forges supplying metal.

	'Outsider' apprentice-ships	%age increase	Stannington own apprenticeships	%age increase	Apprentice-ships leaving	%age increase
1620s-1670s	11		13		33	
1720s-1770s	302	2,745	58	446	75	227
totals	313		71		108	
			Heeley own apprenticeships			
1620s-1670s	35		14		31	
1720s-1770s	145	414	39	278	65	209
totals	180		53		96	
			Attercliffe own apprenticeships			
1620s-1670s	152		121		220	
1720s-1770s	312	205	127	104	332	150
totals	464		248		552	

Table 8.16 Comparative numbers of apprenticeships to and from Stannington, Heeley and Attercliffe Township, in two periods 1620s-1670s and 1720s-1770s.

The data in Table 8.16 is designed to show the expansion of the trades in three areas and to determine whether waterpower may have been a contributory factor. Attercliffe Township figures show it to have had the most apprenticeships in all three categories; those to Attercliffe, from Attercliffe and local boys remaining. However, there is the smallest percentage increase between the two periods. The industry appears static, though it is surprising that more boys left the area than came to it. Attercliffe had a long tradition of cutlery working, had strong core families and access to water-power, which were all features, one would imagine, that would fuel expansion.

The Heeley area of Lower Hallam was close to the river Sheaf with increasing numbers of water-powered sites. It had a small community of cutlers in 1672 and the figures show that it could attract boys for training. The percentage of boys going to Heeley increased by over 400 percent, while the boys leaving increased by only 200 percent. This implies that Heeley became an attractive area for training and as the number of local boys remaining at home doubled in the later period, it suggests an area with more masters able to absorb the increased interest. These masters would not settle in Heeley unless there was some advantage and possibly the water-powered sites were seen as such.

Finally, the figures for Stannington are truly remarkable. With an incredible increase of almost 3,000 percent in the number of apprenticeships from outside Stannington, this is possibly the best argument for the effect of waterpower on the local trade. From an almost non-existent cutlery industry in the seventeenth century, when few local masters took very few apprentices, there was an explosion of interest, by masters and apprentices, both local and from afar. The fact that boys were attracted inward suggests that the trade expansion was not a matter of simple population increase in Stannington. Stannington did not have much of a local base interest in the trades in the earlier period; six being the maximum number of masters apprenticing boys in any decade up to the 1670s. One must suspect that increasing numbers of masters were attracted by the facilities on the rivers and were prepared to train more boys than their predecessors. In the decade of 1750, forty-eight masters indentured apprentices, suggesting an optimistic atmosphere in investment, trade,

markets and development. Also in that decade, twelve new masters appear in the data. By searching for their backgrounds in the apprenticeship records, the following information is gained. Six men have no specific data for their background; four men were 'outsiders' but trained in Stannington and only two men originated locally and were trained locally. This does not give sufficient information to say whether Stannington was attracting outsiders, though the surnames are not all 'local'.

Conclusions

The chapelry was a poor area dominated by agriculture and remote from Sheffield. The scattered communities were not conducive to the cutlery trades, which seem to derive strength from Sheffield and where cutlers might live in groups. Dual economy, where agricultural workers might be involved in some metalworking also, does not seem to have been an important economic factor in the seventeenth century. Very few local boys were trained as apprentices and even if all returned to their fathers' farms, helping in the field and living as non-taxpayers, there is still little evidence for dual occupations.

The study and analysis of the Bradfield chapelry Hearth Tax returns has been rather disappointing. The area was known as an important centre for cutlery manufacture in the nineteenth and twentieth centuries and it was something of a surprise to realise that it was not based on as strong a tradition as was found in Attercliffe. The whole chapelry in 1672 had very few cutlers and attracted few apprentices. This changed in the mid-eighteenth century, especially in Stannington. It can be argued that this was in response to the increase in water-powered grinding sites, but that waterpower availability had little influence on the communities in the seventeenth century.

[1] I am indebted to Julia Hatfield for this information from her research into Stannington families.

[2] Scurfield, G., 'Seventeenth Century Sheffield and its Environs', *Yorkshire Archaeological Journal*, 58 (1986) 159

[3] Crossley, D., *Post-Mediaeval Archaeology in Britain* (Leicester 1990) 235-236

[4] Crossley, D., ed., *Water Power on the Sheffield Rivers* (Sheffield 1989) 36

[5] ibid. pp. 25-26

[6] West Yorkshire Archives, Rotherham Quarter Sessions, 1675, QS1/14/7

[7] Crossley, D., ed., *Water Power on the Sheffield Rivers* (Sheffield 1989) 50-68

[8] ibid. pp. 24-49

Chapter 9
Conclusions

This research has focused on a period of Sheffield's industrial history that was probably near the end of the mediaeval guild organisation, prior to major technological changes in iron and steel manufacture, expansion in the use of waterpower and an increase in population. It has not been the intention to give a definitive description of Sheffield in late-17th century, but to spotlight those features relating to the cutlery trades, as they have been revealed by the data in the Hearth Tax returns, Ladyday, 1672.

Reiteration of the aims and themes

Correlation of the Hearth Tax and the Cutlers' Company records.

Although the data in the Hearth Tax returns is well-used by historians for demographic and other historical studies, the aim here has been to use the data to improve our understanding of the distribution and work practices of the local cutlery trades in Hallamshire. The research has been possible primarily because of the availability of two sets of records. These key research resources are the 1672 Ladyday Hearth Tax returns for the parishes of Sheffield, Ecclesfield and Handsworth in the Scarsdale Hundred and the records of apprentices and freedoms of the Cutlers' Company in Hallamshire. These documents which provide correlating evidence for the numbers and distribution of cutlers and other cutlery

craftsmen, have been combined with data from probate inventories, parish records, leases and rentals. The published research by other historians, especially by David Hey, has provided information relating to late-17th century Sheffield society and this documentary and published information have been augmented by the artefacts in the Hawley Collection, held at Sheffield University.

Though compiled for different purposes, the two contemporary sets of documents have provided a wealth of data relating to the people of Sheffield. One set, the Hearth Tax returns, listed the heads of households and crucially, the owners of smithy hearths. This was for tax purposes and as a national undertaking, has value in that it has been well studied and has generally been shown to provide thorough documentation except in the cases of the poor, where there was some under-recording. The information is presented simply – a name, location and numbers of domestic and smithy hearths. Based on the assumption that the routes taken by the assessors round each area were reasonably logical, the first piece of work was to deduce the locations of specific taxpayers, which was assisted by the known occupants of notable large houses and inns. From the numbers of domestic and smithy hearths, some preliminary conclusions could be reached about the general characteristics of each area.

The Cutlers' Company records include the indentures and freedoms of boys and men belonging to several cutlery craft groupings. These records run from 1624 to 1879, but are effective only until 1814, after which the information is minimal. Prior to that, the records have the names of apprentices, parents and masters, giving occupations, locations and dates. These records consist of a variety of books summarising indentures and freedoms, but they have been published in a restructured manner which was used to develop a computer database. Because of the involvement of a large proportion of Sheffield's inhabitants (therefore taxpayers) in the cutlery trades as parents or masters, these two sources complemented each other very well. Initially they were correlated in order to identify smithy owners and the locations of cutlery communities, but the analysis revealed other factors which characterise these communities.

The smithy owners

The government's desire to raise taxes on easily identifiable assets produced a list of people who owned hearths other than those within their houses. In Sheffield, the cutlery craftsmen felt especially aggrieved at being asked to pay for facilities on which their livelihood depended. The wording of the rules for collecting the tax on smithy hearths was insufficiently clear, allowing for years of conflict and resulting in the 1672 Ladyday returns, which carefully recorded the smithy hearths in and around Hallamshire. This data has been used by other researchers to estimate the size of the cutlery industry, being aware of the different concentrations of smithy hearths in various parts of Hallamshire. Because forging blades in a smithy was the first process in the making of all cutlery, it was reasonable to assume that there was a strong correlation between the numbers of smithies and the numbers of craftsmen. Since forging was fundamental to cutlery manufacture, it was thought that all craftsmen would possess a smithy hearth at this time, even though some late-17th century probate inventories failed to mention forging equipment. Without research into the occupations of the taxpayers, the number of non-smithy owners was not known and similarly, no one had really shown the fact that some craftsmen had needed more than one smithy hearth. These factors, men with multiple smithy hearths and men without smithies, all indicated a manufacturing organisation more complex than the simple procedure of a master involved in all processes, assisted by his journeyman and apprentice.

Family and training links within crafts and communities

Demographic and population studies have shown the importance of core families. The correlation between the Hearth Tax returns and the Cutlers' Company records has shown how core families could influence the traditional nature of the local cutlery trades. By extracting the identified craftsmen from the Hearth Tax returns, it was possible to focus on their locations. This then revealed how trained men remained in a community and how core families of masters could create an area specialisation in one branch of the cutlery industry. Communities can be

reconstructed by combining evidence from the Hearth Tax returns and the apprenticeship records, which gave the location of craftsmen plus family and training links. From 1672, one can then move forward in time and display what happened to the families and masters.

Apprenticeships and the expansion of the trades

Once the correlation of the Hearth Tax returns and the Cutlers' Company records had been shown to provide an applicable course of action, then closer attention could be paid to the sizes and characteristics of the cutlery-making communities. Because the locations of the masters in 1672 could be given with some precision, then the local trades could be reconstructed to show their attraction to apprentices and how this could fuel local expansion. It is clear that the number of craftsmen increased over the two hundred years during the time that the Cutlers' Company records were at their most complete. Using the 1672 Hearth Tax return as a baseline, it was possible to show the communities which expanded faster than the overall rate, declined in size or changed their traditional craft orientation. In order to do this effectively, it was necessary to identify the origin of apprentices and to locate them once they had completed their training. Because the apprenticeship records were the main source of information, freemen, as masters, were more likely to appear again. Non-freemen, who made up about 50% of the trained apprentices, only appeared again if they were fathers of apprentices. This means that any assessment of community size before or after 1672 will have to be an under-estimation. However, sufficient evidence is available to produce a reasonable reconstruction and supplements earlier published works.

Characteristics of each taxation area

The taxation areas have been discussed in the preceding chapters, emphasising the urban or rural nature of the township or quarter and concentrating on specific features, which characterise Sheffield's cutlery industry. In general descriptions of

the cutlery trades, one necessarily groups the trades together which imply a more or less even distribution over the area known as Hallamshire and the adjacent parishes. More detailed descriptions show that some craft groups were rural, being concentrated in certain villages and hamlets and that some trades were urban. This research into the Hearth Tax returns has refined these descriptions by pinpointing the locations of craftsmen more accurately and has linked their locations with geographical features, such as the available waterpower, or with the social influence of an existing community, dominated by core families.

The value of computers

The two key sets of records are admirably suited for computer database construction in that they have specific pieces of information, which can be placed in a limited number of simple fields. The first databases of the Cutlers' Company apprenticeship and freedom records, taken from the material published by Leader, have been augmented by additional information on the freemen's marks. The 1672 Hearth Tax returns have been entered into a similar database. The usual sorting and re-arranging has greatly speeded up the analysis of core data, but the databases have revealed features of the cutlery industry, which might not have become apparent without such computer facilities. The capacity of databases, which facilitates sorting, selecting and correlating, opens up the range of queries that can be made, such as estimating the numbers of incoming apprentices and tracking them after they leave their masters. The databases have also been necessary when attempting to estimate any under-recording of the Hearth Tax returns, by being able to identify masters with apprentices for that given period.

One aspect of this work, which has been particularly pleasing, has been the search for methods of presenting the data. Computers allow information to be transferred into a variety of formats, from databases into tables and to graphs. It has been necessary to find ways of presenting tedious lists of names and figures in a way which would give an easily appreciated impression of a community at a particular moment or during its development over decades. This research has benefited from

the computer and the computer has shown ways in which historical research can be advanced.

Conclusions

It has been very rewarding to work with two sets of contemporary data, which provide information for a reconstruction of cutlery communities in Hallamshire in the late-17th century. The evidence has been discussed in previous chapters and several features emerged that add to our understanding of the Sheffield cutlery industry. The major ones are:

- the organisation of the trades based on the possession of a smithy hearth
- the specialisation by craftsmen in specific processes
- the role of core families in the traditional nature of the industry
- the role of water-powered grinding wheels

The smithy hearths

The identification and location of the taxpayers who owned smithy hearths has been the key achievement of this research, on which other conclusions depend. This part of the research has demonstrated the value of having two contemporary sources of information. These records have shown a close correlation and because one set is from the Cutlers' Company, it is therefore not surprising that the areas having the greatest involvement in the cutlery trades, should have the highest number of identified smithy hearth owners. In most taxation areas however, some smithy hearth owners were not in the Cutlers' Company. Other metalworkers, such as blacksmiths and smoothing iron makers, have been identified but most of the unidentified owners were in the Ecclesfield parish and are assumed to have been nailmakers, who had virtually no links whatever with the cutlery trades at this time.

Previous research has shown that the communities with the strongest links to the

cutlery trades also had the most smithy hearths, but there had been little work on the precise use of the smithies. The detailed description of manufacturing processes in Chapter Three has shown the place of the smithy hearth and forging in the organisation of the trades. Forging is the process requiring speed on the part of the craftsman, as blades have to be worked while the metal is at forging heat. A number of blades would therefore be produced at one session, requiring a longer period to grind and an even longer time to assemble. During these processes, a craftsman would spend more time *away* from his hearth, so the smithy was lying idle. In order to maximise the facility, a master might have organised his journeymen or apprentices to work at one or other of the production processes.

Forging the blades was the first and fastest process in cutlery manufacture, making the smithy hearths key structures within a community, since everything else depended on the resources and skill of craftsmen who could forge. It had been assumed that all craftsmen would forge and probably at one time they did, but the evidence presented here shows that many craftsmen could make a living without their own smithy. All the quantitative data relating to smithy hearth owners from previous chapters is assembled in Tables 9.1-9.3.

Table 9.1 shows the numbers of identified cutlery craftsmen and it is remarkable that cutlers without smithy hearths outnumber those who had one. This feature highlights organisational issues, which have perhaps not been recognised before. The research has tried to formulate answers about the role of a metalworking craftsman if he had no smithy. If he was a non-freeman, one might suggest that he continued to work as a journeyman for his master (or another) in the master's smithy. This was the usual organisation in a simple handicraft system of manufacture. However, if the man were a freeman, then he may have become the employee of another master or he may have rented time at another man's smithy, perhaps being too poor or with no space to have his own. Probate records of men without smithies show they did not have forging tools, so if they did forge blades, they would have had to use all their employers' facilities and tools. Most of the cutlery craftsmen had only one smithy hearth, and as there might have been times when the owner of the hearth was not using it, arrangements and schedules could

have been made for outsiders to rent it. However, it does not seem possible that the men with smithy hearths could have accommodated all the craftsmen who did not. The second alternative is that the non-smithy owners had given up forging altogether and concentrated on another of the manufacturing processes. Because forging was the quickest process, fewer forgers could supply the needs of grinders and hafters.

Hearth Tax areas	total number of entries	smithy hearths		cutlers		scissor-smiths		other craft groups with and (without)
		no. of properties	in cutlery trades	with	with -out	with	with -out	
Attercliffe	125	41	38	21	14	16	-	1 sicklesmith; (1) shearsmith
Brightside	106	24	16	14	13	2	-	(3) shearsmiths; (1) awlbladesmith
Ecclesall	134	21	16	13	11	1	-	1 awlbladesmith; (1) scythegrinder
Lower Hallam	73	16	10	6	12	2	1	2 scythesmiths
Sheffield 1st	225	98	82	48	36	23	10	4 (1) awlbladesmiths; 3 (2) shearsmiths 5 (1) filesmith;
Sheffield 2nd	292	77	61	39	61	18	10	1 (1) awlbladesmith; 3 filesmiths (1) shearsmith
Upper Hallam	85	3	-	-	-	-	-	
Ecclesfield	68	12	5	5	10	-	-	
Grenofrith	103	18	1	1	2	-	-	
Southey Soke	91	13	10	8	16	2	1	
Wadsley	50	5	4	4	4	-	-	
Bradfield	75	3	-	-	-	-	-	
Dungworth	72	1	-	-	1	-	-	
Stannington	81	3	2	2	6	1	-	
Waldershelf	95	2	-	-	3	-	-	
Westnall	88	6	2	2	4	-	-	
Handsworth	103	7	4	1	7	-	3	2 scythesmiths; 1 shearsmith * (1) filesmith
totals	**1866**	**350**	**251**	**164**	**200**	**65**	**25**	23 (12) total 6 (3) awlbladesmiths 8 (2) filesmiths 5 (7) shear/sicklesmiths 4 (1) scythesmiths

Table 9.1 Identified cutlery craftsmen with and without smithy hearths. Figures in brackets relate to craftsmen without smithies. * non-resident owner of a smithy hearth.

Having identified the non-smithy owners, it was thought that perhaps a sizeable proportion of them would be non-freemen, which would make the industrial

organisation simpler to explain. However, from the available data in the apprenticeship records, 58 per cent of the men without a smithy hearth were identified as freemen.

Hearth Tax areas	cutlers with smithies	identified freemen (& non-freemen)	cutlers with-out smithies	identified freemen (& non-freemen)	scissor-smiths with smithies	identified freemen (& non-freemen)	scissor-smiths s with-out smithies	identified freemen (& non-freemen)
Attercliffe	21	20	14	11 (1)	16	16	-	-
Brightside	14	11 (1)	13	6 (3)	2	2	-	-
Ecclesall	13	13	11	7 (3)	1	1	-	-
Lower Hallam	6	6	12	8 (1)	2	2	1	-
Sheffield 1st	48	33 (3)	36	22 (6)	23	20	10	3 (2)
Sheffield 2nd	39	23 (6)	61	34 (9)	18	15	10	7 (1)
Upper Hallam	-	-	-	-	-	-	-	-
Ecclesfield	5	4	10	4 (3)	-	-	-	-
Grenofrith	1	1	2	1	-	-	-	-
Southey Soke	8	5 (1)	16	11 (1)	2	2	1	1
Wadsley	4	2	4	- (1)	-	-	-	1
Bradfield	-	-	-	-	-	-	-	-
Dungworth	-	-	1	-	-	-	-	-
Stannington	2	2	6	5 (1)	1	-	-	-
Waldershelf	-	-	3	2	-	-	-	-
Westnall	2	2	4	2	-	-	-	-
Handsworth	1	(1)	7	4 (2)	-	-	3	3
totals	**164**	**122 (11)**	**200**	**117 (31)**	**65**	**58**	**25**	**15 (3)**
percentage of freemen and (non-freemen)		**74% (6%)**		**58% (15%)**		**92% (0%)**		**60% (12%)**

Table 9.2 Identified cutlers and scissorsmiths, with and without smithy hearths and whether they were freemen or not. The relevant data on apprenticeships and freedoms is not always recorded.

Tables 9.1 and 9.2 show that it was in Sheffield Second Part and in rural areas that cutlers without smithies outnumbered those with one. Sheffield Second Part appeared to be poorer than the other part of Sheffield, so the craftsmen without smithies may not have had the resources to build one. Here, instead of specialising, they may have rented time at another man's (or woman's) smithy hearth or become employees of other masters.

It is suggested that men in the countryside, who did not have a smithy hearth, were specialising in the processes other than forging, since they were unlikely to find time to forge their own blades in the few scattered cutlery smithies. It has been suggested

that rural craftsmen without smithy hearths, had dual occupations involving agricultural-related work. They might have worked at grinding and hafting knives throughout the year, unlike the scythesmiths of Norton where they were also husbandmen/yeomen with forges, working at their two occupations at different times of the year. The fewer smithy hearths in rural areas probably forced the rural craftsmen to specialise in grinding or assembling earlier than the urban craftsmen. Many rural craftsmen subsequently benefited from the increasing number of water-powered grinding wheels, which re-inforced this specialisation.

Hearth Tax areas	no. of properties with smithies	cutlers			scissorsmiths					women	
		1	2	*w/o*	1	2	3	4	*w/o*	1	2
Attercliffe	41	20	1	*14*	9	7	-	-	-	-	1
Brightside	24	14	-	*13*	-	1	1	-	-	4	1
Ecclesall	21	12	1	*11*	1	-	-	-	-	2	-
Lower Hallam	16	6		*12*	1	-	1	-	*1*	1	-
Sheffield 1st	98	42	6	*36*	6	16	1	-	*10*	7	1
Sheffield 2nd	77	37	2	*61*	5	12	-	1	*10*	4	1
Upper Hallam	3	-	-	-	-	-	-	-	-	-	-
Ecclesfield	12	5	-	*10*	-	-	-	-	-	1	-
Grenofrith	18	1	-	*2*	-	-	-	-	-	1	-
Southey Soke	13	8	-	*16*	2	-	-	-	*1*	-	-
Wadsley	5	4	-	*4*	-	-	-	-	-	-	-
Bradfield	3	-	-		-	-	-	-	-	-	-
Dungworth	1	-	-	*1*	-	-	-	-	-	-	-
Stannington	3	2	-	*6*	1	-	-	-	-	-	-
Waldershelf	2	-	-	*3*	-	-	-	-	-	-	-
Westnall	6	2	-	*4*	-	-	-	-	-	-	-
Handsworth	7	1	-	*7*	-	-	-	-	*3*	-	-
total	**350**	**155**	**10**	***200***	**25**	**36**	**3**	**1**	***25***	**20**	**4**

Table 9.3 The numbers of smithies owned by cutlers, scissorsmiths and women. Identified craftsmen without smithy hearths are in italic.

The organisation of scissor manufacture seems to have been different from that of knifemaking. Here the remarkable feature is that not only did the majority of scissorsmiths have smithy hearths, but well over half had multiple hearths. Their workshops must have been bigger to accommodate these extra hearths and the people working at them. The most obvious manufacturing reason for the extra smithies is that scissors, and shears, are all metal and most of the processes had to be done when the metal is hot. It might be that this extra forging capacity was needed to make the parts of scissors efficiently, though men like Edward Brittlebank

survived with only one smithy hearth. Because so few scissorsmiths were without a smithy, there is less reason to suggest a trend in 1672 towards specialisation in grinding or putting together the scissors. One likely organisation of work by the scissorsmiths was that they were operating early manufactories, having several employees working on the premises at the two, three and four smithies, and perhaps concentrating on the different forging processes or on different varieties of scissors. Alternatively, the scissorsmiths rented out their excess forging capacity perhaps to augment their income. The few identified scissorsmiths without a smithy hearth could have been accommodated by the other scissorsmiths at their multiple smithies. If added income was a reason for multiple hearths, it is surprising that that is seems to have been generally confined to the scissorsmiths. It is also surprising that if the scissorsmiths could develop small manufactories, the cutlers seemed unable to do the same. However, the scissorsmiths present a picture of a slightly better-off group of craftsmen, with their multiple hearths and their ability to organise protests about the truck system of payment in the 1680s.

The minor craft groups also had men with and without smithy hearths, but the numbers are small and three of these groups did not join the Cutlers' Company until after 1672. The identified men were nearly all in urban areas and one can suggest that some craftsmen were specialising in separate processes, such as file cutting. The scythemakers were already specifying their branch of manufacture as seen by the scythegrinder in Ecclesall.

One final word on smithy hearths. There were women owners of smithies and since no girls were apprenticed to cutlers, etc., one must assume that they were either employing men to work at them or were renting them out. Several of the women were possibly the widows of cutlery craftsmen and therefore may have continued to manage their late husbands' journeymen. These journeymen, if they were not freemen, would have had to take on work for other masters, presumably with the widow negotiating the rates. The smithies represented an asset for these women which would also have provided an income from rents since there were a number of craftsmen who might have needed their facilities.

Specialisation and fragmentation

Following the discussion on the position of the smithy hearth owners in the manufacturing organisation, the development of specialisation in and fragmentation of the processes will now be considered. It had been assumed that apprentices were taught all stages in the manufacture of cutlery and that as craftsmen, they would continue to practise all these processes. However, this research has presented data which shows that by 1672 many men might have been specialising in one or more processes. This has implications in that masters would have had to contract work out to other craftsmen or employ journeymen or freemen, either on or off their own premises. Those with a smithy hearth could make blades to another master's orders. This master could then distribute them for grinding, to be returned to him for finishing. From this, it is possible to see the development of the complex network of outworking and subcontracting found in Sheffield; a conclusion which is based on the number of craftsmen without the primary resource of a smithy hearth. This also perhaps explains why communities of craftsmen appear to develop more effectively when there are more than half a dozen craftsmen in the locality. If there is the need to share facilities or to sub-contract work, then the necessary movement of part-finished goods is less time-consuming in a community which has all the facilities to hand. The Hearth Tax returns show a certain gregariousness on the part of the craftsmen, but this might be a further argument for specialsiation and fragmentation.

It is difficult to see how masters who specialised in one or other process, could take on apprentices and train them up in anything more than their own specialisms. This probably explains some of the apparently restrictive clauses in the 18th century indentures; masters without a smithy hearth simply could not train boys in forging. Because of this, specialisation and fragmentation of the processes would continue. The evidence from the 18th century indentures has shown the growing use of specific terms for craftsmen, especially the grinders, although scythegrinders were known in the 17th century.

Together with this detailed recording of craft specialisation, an increasing range of items was being made. Although the Cutlers' Company enforced the rules restricting men to one craft, the cutlers, more than any other group had the

opportunity to diversify and embrace new products such as forks and spring knives, as well as making open razors. These items provided scope for establishing niche markets as well as further possibilities for specialising in one manufacturing process. Gradually therefore, fragmentation of the craft groups and specialisation in processes resulted in men becoming forgers, grinders or finishers. The evidence in apprenticeship records and parish registers for the work practices of the scythesmiths has shown that specialisation was an accepted feature of the trade. However, with no comparable written evidence for any other trade being so specialised and because of the increasing use of the term 'grinder' in the mid-eighteenth century, it has generally been taken that trade specialisation developed from that time.

On the basis of this research, it is suggested that the fragmentation, specialisation and organisational features such as sub-contracting in the cutlery trades, was evident in the late-17th century and developed into the full-blown system seen more clearly in the 19th century. By that time, the early unions were representing very specific (and small) groups of men. Evidence from the 'statements', which give the prices for all the carefully described processes, show that men had become for instance, table blade forgers, pocket knife grinders or scissor putter togetherers. While many men did continue to be general cutlers, etc., one can see how the complexity of Sheffield's manufacturing system, based on small production units, which might or might not have been in one building, could have developed.

Cutlery-making communities

The 1672 Hearth Tax returns have provided information about the local cutlery industry at a moment in time and this research has used the details from the Cutlers' Company records to move backwards and forwards to reveal features of the Hallamshire communities. It has been possible to reconstruct these communities showing the masters working in the decades prior to 1672, how they attracted apprentices from near and far and whether any of these boys remained in the vicinity. Because many apprentices were sons of cutlers, etc., these communities could develop core families which enhanced the local trade orientation. It is

unfortunate that the geographic location of particular houses cannot be made with certainty, because the sequence of entries in the Hearth Tax does suggest close concentrations of specific types of craftsmen.

Further subsidiary features were also considered when reconstructing the communities. The identification of the 1672 taxpayers has shown that outside Sheffield town and Attercliffe, the cutlery-making communities were quite small, sometimes with only a handful of craftsmen in the locality. The data shows differences, other than size, between the rural and urban communities of craftsmen. Scissorsmiths were concentrated in Sheffield and Attercliffe in close-knit groups, linked by training and/or family relationship and hardly any scissorsmiths were found in the rural hamlets. The few identified filesmiths, awlbladesmiths and shearsmiths were also generally found in the urban areas. Cutlers were found in most parts of Hallamshire, but especially in Sheffield town and the nearby hamlets. There were fewer cutlers in rural Bradfield, Ecclesfield and Handsworth, so one might argue that knifemaking was also an urban craft. However, parts of Bradfield and Ecclesfield did offer opportunities for expansion and diversification in cutlery manufacture in the 18th century.

One aim in reconstructing cutlery-making communities was to try to assess any under-recording of householders in 1672. It has generally been accepted that the poor represented about 30 percent of the population, a figure rarely achieved in the Hallamshire returns. The only way which this research could identify missing people with any certainty, was to identify masters with apprentices during or shortly after 1672. Some were 'missing', but it has been argued that most were not examples of under-recording, but that they were lodgers living with family members or their masters.

Previous research by Buckatszch and Hey has shown the population increase in Sheffield after 1700 and that it had depended in part on the immigration of men into the cutlery industries. Boys certainly came from some distance to train in Hallamshire and this research has attempted to trace those who chose to remain. However, the analysis of the Hearth Tax returns and the identification of masters have shown very few immigrants, who originated outside the borders of Hallamshire

at that time, remaining where they were trained. There was movement across the very large area of Hallamshire and this can be considered as 'micro-migration'. The data presented in previous chapters shows that most 'outsider' apprentices and masters had travelled very short distances, often only from the next Township.

The presentation of the data in graphs and 'time charts' attempts to show the distribution of craftsmen and the changes in community structures over the years and how the end of the 17th century might be seen a turning point in the cutlery industry. After 1700, several core families disappear or were swamped by other craftsmen, often local men but most of whom did not establish long-term dynasties of masters. In many of the small rural communities, the core families ceased to determine the characteristic crafts and trades such as filemaking and forkmaking became established. The correlation of the Hearth Tax data and the Cutlers' Company records has shown the potential for further research into the nature of specific communities and how they developed.

Waterpower and expansion

By being able to focus this research on a moment in 1672, the Hearth Tax returns provide a baseline from which measure expansion or decline in communities. It has been shown that some areas had a greater attraction for and were better able to accommodate both local and 'outsider' apprentices. The apprenticeship system of the Cutlers' Company, although it was restrictive, was bound to increase the numbers of skilled craftsmen. The problems for these trained men included where they were to live and work, some settling where they were trained, many returning home and some men moved to another area altogether. The rather imprecise recording of 'Sheffield' as a location for many masters and apprentices prevents quantitative conclusions being drawn about the expansion of Sheffield town. More realistic conclusions can be made for the expansion of the rural communities. Although there is little documentary evidence relating to the growth of small hamlets in the 17th century, these places would have had more space for new houses and workshops. This would be an attraction for trained craftsmen, but the water-

powered grinding wheels, being built in increasing numbers on the rivers to the west of Sheffield town, would also have had an appeal.

It has been argued in previous chapters, that waterpower for grinding and other metalworking had not been a particularly important factor in determining the location of cutlery craftsmen. The urban nature of the crafts appears to have been more important than the rural location of the water wheels. It has been shown that waterpower was not necessary for the grinding of blades, which could be done, if it were done, in any workshop. However, the fragmentation of manufacturing processes leading to specialisation may have been a chicken-and-egg situation where increasing demand from non-smithy owners for improved resources coincided with the building of more water-powered grinding wheels after 1700. The areas around the western rivers did show an increase in the number of masters during the 18th century and some expanded faster than the overall increase in the cutlery trades as depicted by the numbers of apprenticeships.

The remarkable areas of expansion, apart from 'Sheffield' which is difficult to quantify, were Stannington and Southey. For reasons which are still unclear, Southey's character changed from being predominantly a place for cutlers to one with several filesmiths and forkmakers. Although Stannington apprenticeships do not provide documentary evidence to support this, it is suggested that the enormous increase was related to the growing numbers of water-powered grinding wheels on the rivers Loxley and Rivelin.

Summary

As a Sheffielder, I began this research with preconceptions about the Sheffield cutlery industry in the late-17th century, based on a simplistic view of a mediaeval guild system. I had assumed that men were trained to forge, grind and finish cutlery and that on completion of their apprenticeship, freemen would be able to set up as masters, with their own relatively simple tools. The need for a workspace, which

was often a chamber or workshop within a domestic building, would be easy to acquire, but that a smithy would take more investment. I had assumed that non-freemen might have had their own workspace and tools and would have accepted work from one or more master freemen.

I had seen from the Cutlers' Company records that during the 18th century, many men were being described as grinders and that by the time the Cutlers' Company key role in the cutlery trades had diminished, the industry was fragmenting into the myriad processes and products which has characterised it ever since.

I was aware that certain areas within Hallamshire had specialised in certain trades, with a difference between the urban and rural crafts. I knew too that the Sheffield cutlery industry was conservative, restrictive and with a strong family tradition.

I had accepted the general view of the crucial part played by the availability of water power in the establishment and expansion of the cutlery trades in Sheffield. I had appreciated that Sheffield was fortunate above all other places in having such an abundance of power for grinding and that this was a key feature, possibly in the distribution of craftsmen around Hallamshire. I was aware that European centres of cutlery manufacture had similar geographical and organisational features.

At the conclusion of this research, I now see this simple view of a domestic handicraft type of production give way to a greater understanding of the complexity of the industry and see the seeds of the 19th and 20th century trade organisation growing in the late-17th century. The two-tier system of production based on the freemen and non-freemen, as master and employee, is complicated by the craftsmen with and without smithy hearths. It would have been easier to understand if the freemen all had smithies and all the non-freemen did not. However, we are shown an organisation where overall, the craftsmen could not have operated independently of one another and in fact, chose to establish closely-linked urban communities. Whether through choice or circumstance, increasing numbers of men specialised in one or other of the manufacturing processes. Cutlers, in particular, could diversify into different products and develop their skills in creating a vast range of knives, forks and open razors. Many communities, which at the start of the Cutlers'

Company era in 1624 had only a handful of craftsmen linked by family and training, went on to expand but maintain their core families and specialisations. Other communities lost their core families of masters and embraced new products and processes.

Although I had misconceptions about the early history of the Sheffield cutlery industry, I was not mistaken in my appreciation of the value of the Cutlers' Company apprenticeship and freedom records or in the essential use of computers for the quantitative analysis of large amounts of data. The correlation of the Hearth Tax returns and the apprenticeship records has been gratifying, especially since the study of smithy hearths in the Hearth Tax returns has rarely been done. This information relating to the Sheffield smithy hearths has provided a focus for the Cutlers' Company records at one specific period in the development of the Sheffield cutlery industry. It has been a pleasure to work with such comprehensive and unique documents and to know that there will now be a better appreciation of the role of the cutler in the communities of Hallamshire.

This research has added details to the general picture of Sheffield's industrial development, showing that manufacturing complexity was growing by the mid- to late-17th century. By describing the different manufacturing processes, the varied products and the distribution of the cutlery craftsmen, we have arrived at a better appreciation of the industrial organisation, which encouraged innovation in products while clinging to conservative practices. The research shows that the role of the Cutlers' Company was crucial in turning Sheffield from just another small cutlery community to one which rivalled and overtook London. The Company, although it was restrictive, originally had a paternalistic care of the industry and moulded the craft groups into an industry, which even fragmentation and specialisation did not fracture.

Appendix A

Conversion Tables

Currency

Pre-decimal currency

2 farthings = 1 halfpenny
2 halfpennies = 1 penny (d)
12d. = 1 shilling (s)
20 shillings = 1 pound (£)

Decimal currency

100 pence (p) = 1 pound (£)

Pre-decimal	decimal
3d	1.25p
6d	2.5p
1/-	5p
2/-	10p
3/-	15p
4/-	20p
5/-	25p
6/-	30p
7/-	35p
8/-	40p
9/-	45p
10/-	50p
11/-	55p
12/-	60p
13/-	65p
14/-	70p
15/-	75p
16/-	80p
17/-	85p
18/-	90p
19/-	95
£1	£1

Weight

Imperial weight measure

16 ounces (oz) = 1 pound (lb)
14 pounds (lbs) = 1 stone (st)
4 stones = 1 quarter
4 quarters = 1 hundredweight (cwt)
20 cwt = 1 ton

Metric Weight

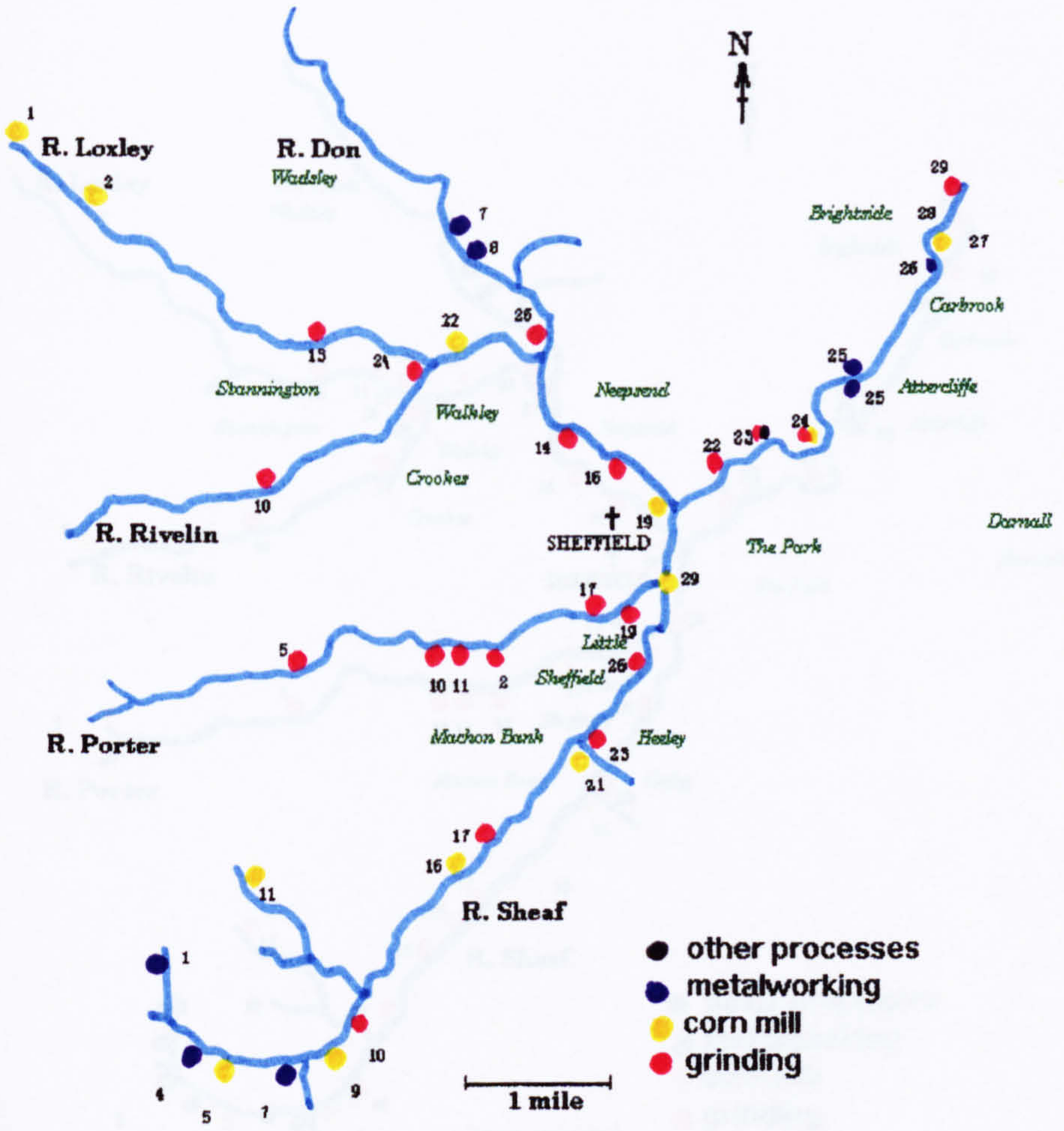
1000 grams (gm) = 1 kilo

Imperial	Metric
1 oz	28 gms
1 lb	454 gms
1 stone	5.356 kilos
1 quarter	10.712 kilos
1 cwt	42.848 kilos

Appendix B.1

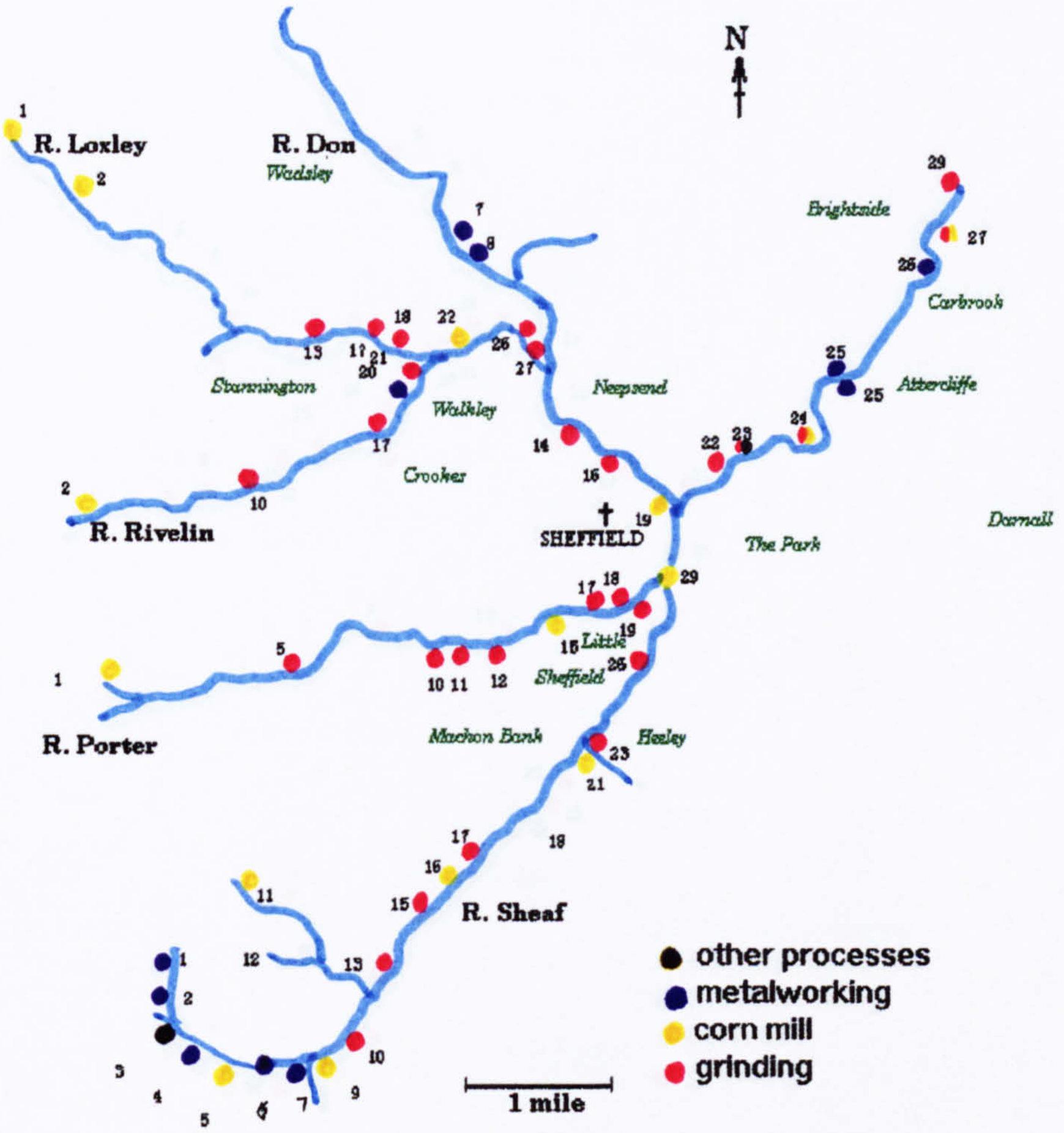
Map of the five main Sheffield rivers, with the water-powered sites which were in existence by 1581. The numbered sites correspond to the list of the all the sites in Appendix C.

Appendix B.2



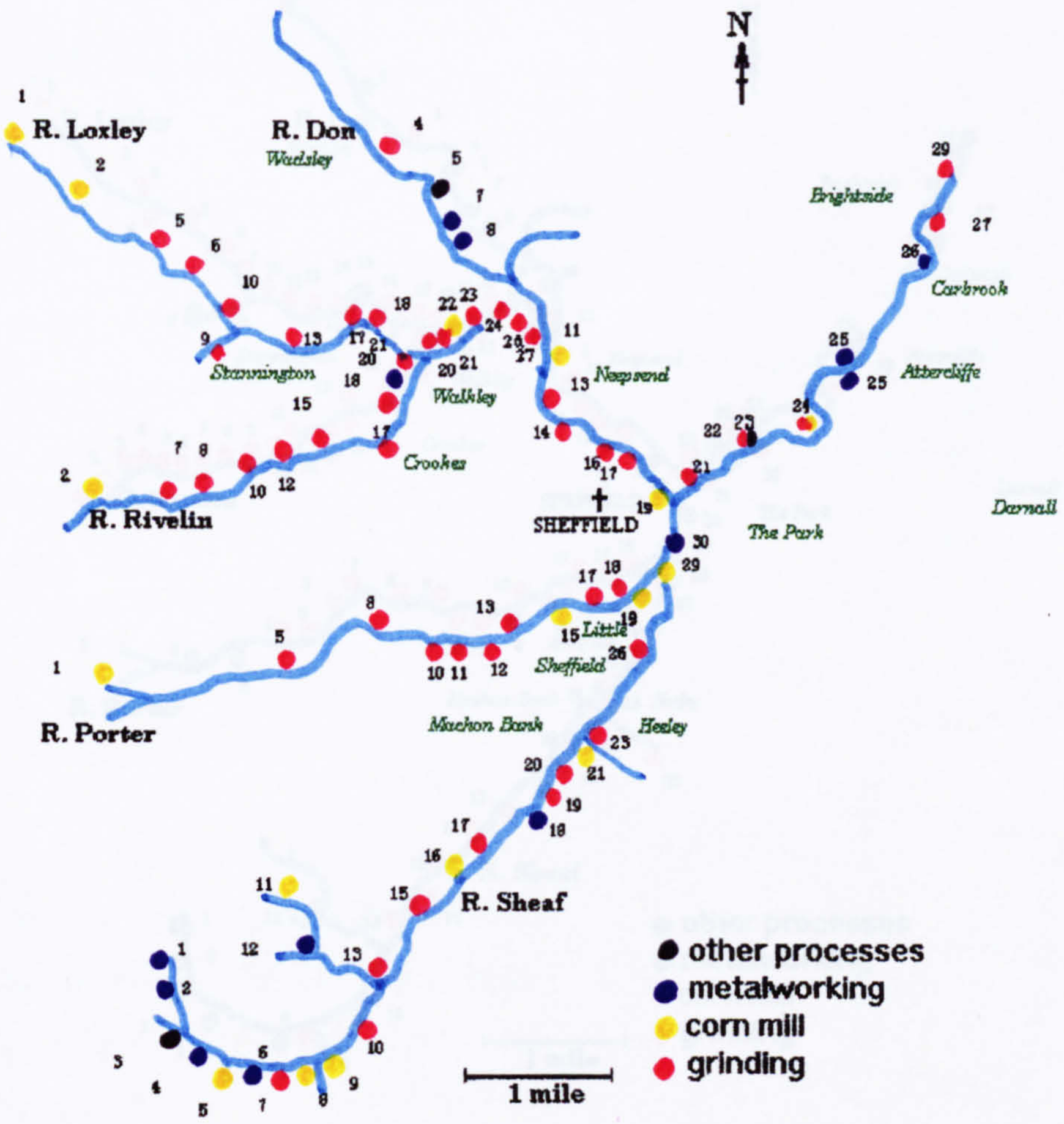
Map of the five main Sheffield rivers, with the water-powered sites which were in existence by 1630. The numbered sites correspond to the list of the all the sites in Appendix C.

Appendix B.3



Map of the five main Sheffield rivers with the water-powered sites, which were in existence by 1680. The numbered sites correspond to the list of the all the sites in Appendix C.

Appendix B.4



Map of the five main Sheffield rivers with the water-powered sites, which were in existence by 1730. The numbered sites correspond to the list of the all the sites in Appendix C.

Appendix B.5

Map of the five main Sheffield rivers with the water-powered sites, which were in existence by 1780. The numbered sites correspond to the list of the all the sites in Appendix C.

Appendix B.6

Outline map of the water-powered sites on the Blackburn Brook taken from W.T. Miller, *The Water-Mills of Sheffield*, p.93

Appendix C

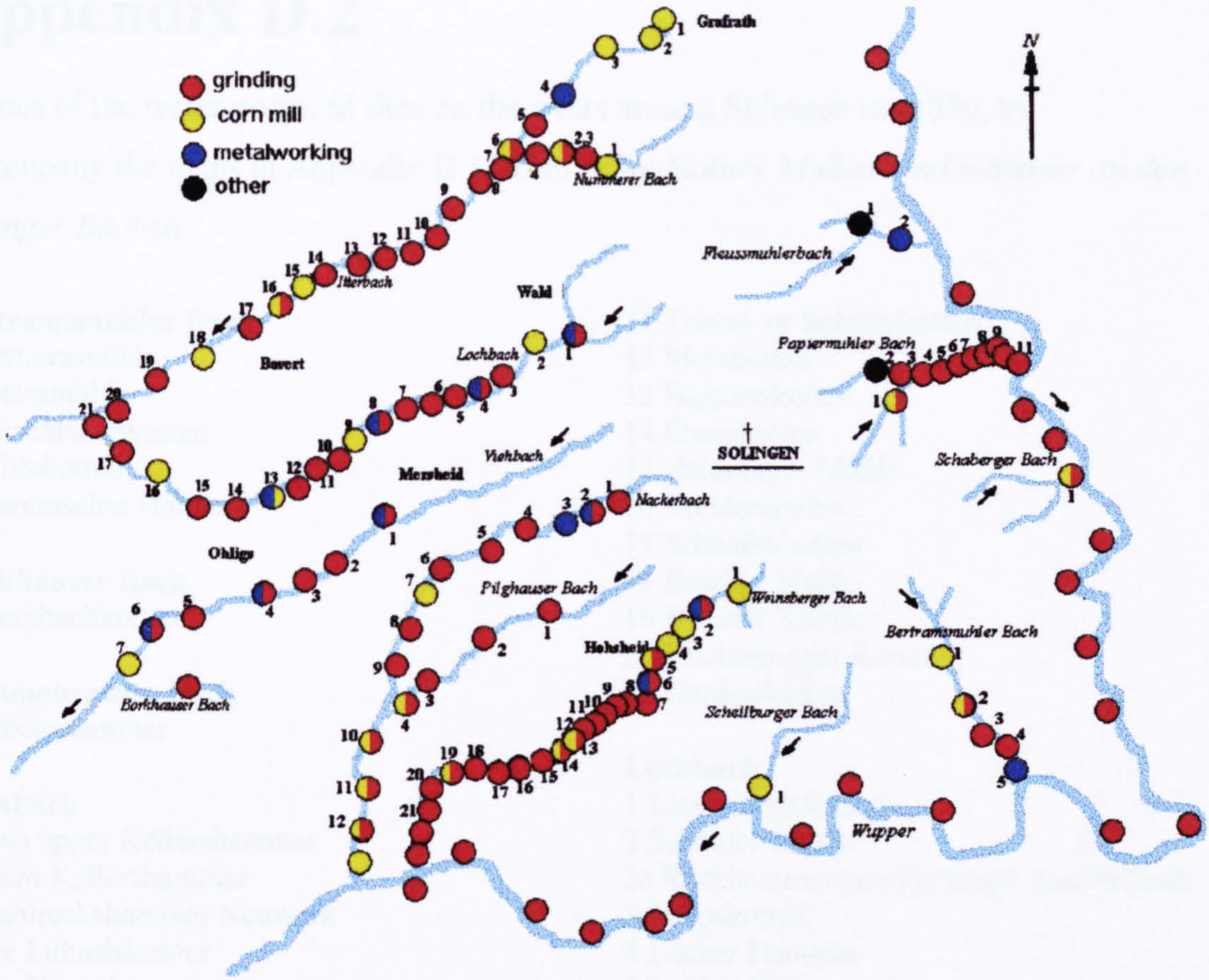
A list of the water power sites on the five main Sheffield rivers. The numbers correspond to the maps in Appendix B and the dating is taken from the earliest surviving documentary evidence and those dates with an asterisk refer to sites already in existence. Only those with the letter 'N' after the date can be catagorical confirmed to be new sites at that date. This information is based on the details in *Water Power on the Sheffield Rivers,* D. Crossley (ed)

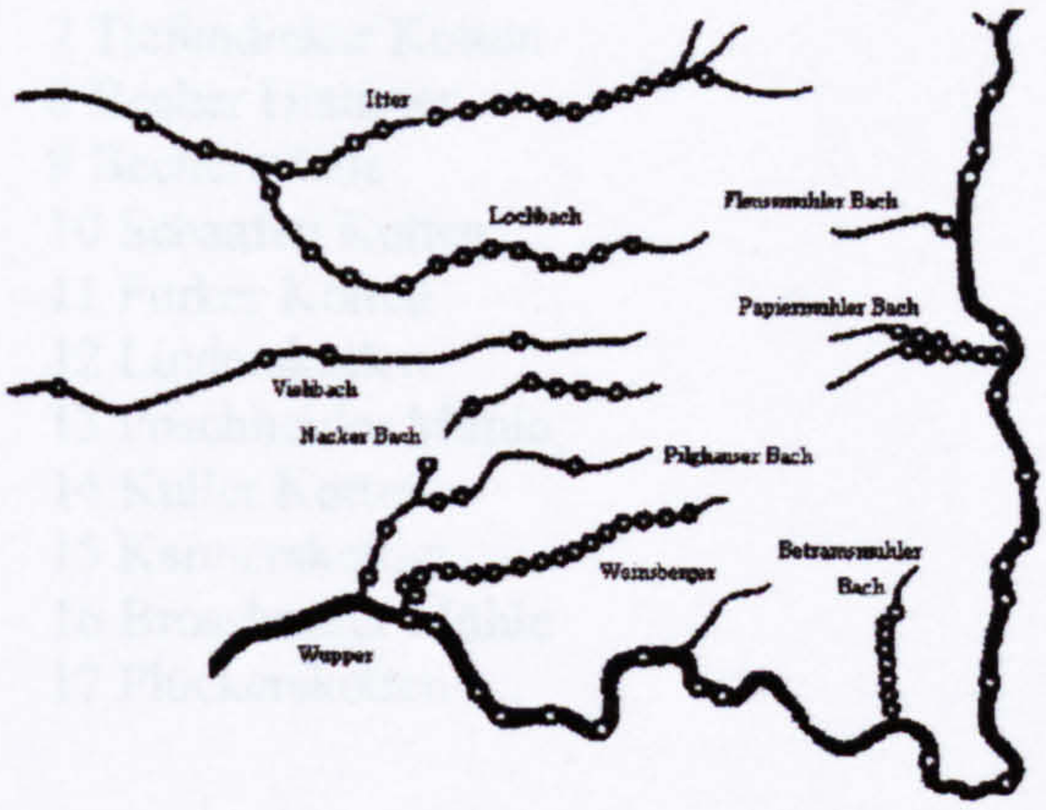
No.	Site name	Earliest date	Operations
	River Don		
D01	Upper Middlewood Forge	1761*	grinding and tilt
D02	Middlewood Rolling Mill	1784*	rolling/slitting
D03	Beeley Wood Tilt	1749	tilt
D04	Hawksley/Clay Wheels	1686N	grinding
D05	Wadsley Bridge Paper Mill	1709*	paper; tilt by 1806
D06	Wadsley Bridge corn mill and forge	1731*	corn; tilt and forge by 1806
D07	Wadsley Furnace	c1583	iron furnace
D08	Wadsley Forge/ Wardsend Wheel	1581	iron furnace; grinding in 1812
D09	Rawson Bark Mill	1783*	tanning
D10	Owlerton Rolling Mill	1753*	slitting
D11	Old Park Corn Mill/ Club Mill	1709*	corn; possibly grinding by 1807
D12	Old Park Paper Mill	1749*	paper to 1788
D12	Old Park Silver Mill	1764	silver and plate
D13	Sandbed Wheel	1723	grinding; tilt by 1794
D14	Upper Morton Wheel	1581*	grinding
D15	Nether Morton Wheel	c1739	grinding; tilt by 1850s
D16	Kelham Wheel	1604*	grinding
D17	Britannia Corn Mill	1847*	corn
D18	Cotton Mill	1774	cotton
D18	Silk Mill	1763	silk
D19	Town/Sheffield Corn Mill	12th c.	corn
D20	Town Wheel	1740	grinding
D21	Wicker Tilts (east)	1749	tilt and forge
D21	Wicker Tilts (west)	1752	tilt and forge
D22	Wicker Wheel	1581*	grinding
D23	Walk Mill	1581*	fulling
D23	Walk Mill Wheels, upper	1581*	grinding
D23	Walk Mill Wheels, lower	1760-80	grinding
D24	Royds Mill	1578*	corn
D24	Royds Wheel	1581*	grinding
D25	Attercliffe Upper Hammer	1583*	forge
D26	Attercliffe Nether Wheel/Hammer	1581*	forge
D27	Brightside Mill/Forge	1328*	corn to 1690;cutlery to 1650; tilt in 1738
D28	Brightside Paper Mill	1754	paper
D29	Parker Wheel	1604*	grinding; tilt in 1738

	Loxley		
L01	Low Bradfield corn mill	1219*	corn
L02	Damflask corn mill	1579*	corn
L03	Damflask wheel	1750	grinding, then paper c.1800
L04	Stacey wheel	1749	grinding
L05	Storrs Bridge wheel	1720	grinding, plus forge and tilt by 1811
L06	Old wheel	1690*	grinding, plus forge and tilt by 1811
L07	Rowell Bridge wheel	1734N	grinding
L08	Storrs snuff mill	1749	snuff, then paper by 1783
L09	Wheel/smelting mill/wire mill	1693*	grinding; lead smelting in 1749; cutlery by 1754; corn in 1829
L10	Olive wheel	1714-16	grinding, plus paper by 1832
L11	Cliff wheel	1737	grinding
L12	Low Matlock wheel	1732	grinding; tilt and forge by 1811
L13	Ashton Carr wheel	1549	grinding; tilt and forge by 1814
L14	Green wheel	1777*	snuff ? then tilt and forge
L15	Glass wheel/titl	1777*	tilt
L16	Broadhead wheel	1740*	grinding; hammers by 1868
L17	Wisewood scythe wheel/forge	1664*	(?)early cutlery grinding; scythe grinding; forge & tilt by 1865
L18	Wisewood forge/rolling mill	1664*	related scythe grinding; forge by 1813
L19	Malin Bridge wheel/mill	1739*	grinding; then casting by 1819
L20	Turner wheel	1697*	grinding
L21	Limbrick wheel	1723	grinding; plus rolling and wire by 1864
L22	Owlerton corn mill	1386*	corn
L23	Owleton lower wheel	1722*	grinding
L24	Owlerton snuff/paper mill	1760	snuff; paper by 1815
L25	Birley meadow wheel	1709	grinding; forge and tilt by 1782
L26	Upper slack wheel	1581*	grinding
L27	Lower Slack wheel	1637*	grinding; then forge by 1793
	River Porter		
P01	Fulwood Upper Mill	1641*	corn
P01	Fulwood Lower Mill	1757	corn
P02	Old Forge	1779*	metal working
P03	Whiteley Wood Rolling Mill	1760-1	metal working
P04	Leather Wheel	1749N	grinding
P05	Porter/Shepherd Wheel	1556*	grinding
P06	Ibbotson/Upper Spurgear Wheel	1753-4	grinding
P07	Nether Spurgear Wheel	1749	grinding
P08	Holme/Second Endcliffe Wheel	1724	grinding
P09	Endcliffe Wheel	1769*	grinding
P10	Upper Lescar Wheel	1531*	grinding
P11	Nether Lescar Wheel	1531*	grinding
P12	Sharrow Wheel/Mills	1604*	grinding; snuff in 1763
P13	Stalker Wheel	1705*	grinding
P14	Broomhall Wheel	1759*	grinding
P15	Broomhall Mill	1664*	corn
P16	Norris Wheel	1750N	grinding
P17	Little Sheffield/Bennett Wheel	1604*	grinding
P18	Hynde /Sylvester Wheel	1650*	grinding
P19	Cinderhill Wheel/Pond Mill	1581*	grinding; corn in 1753
	River Rivelin		
R01	Uppermost wheel	1751N	grinding
R02	Rivelin corn mill	1632*	corn
R03	Upper coppice wheel	1736	grinding
R04	Second coppice wheel	1736	grinding; then wire by 1852
R05	Third coppice wheel	1758*	grinding; then paper by 1850s
R06	Frank wheel	1737	grinding; then paper by 1854
R07	Wolf wheel	1722	grinding
R08	Swallow wheel	1692*	grinding
R09	Plonk wheel	1737	grinding
R10	Hind wheel	1581*	grinding
R11	Upper cut wheel	1749	grinding
R12	Nether cut wheel	1719	grinding
R13	Little London wheel	1752	grinding
R14	Holme Head wheel	1742*	grinding

R15	Roscoe wheel	1725 N	grinding
R16	New dam	1853 N	
R17	Spooner wheel	1637*	grinding
R18	Rivelin Bridge wheel	1724	grinding; glass grinding in 1794; corn by 1860
R19	Walkley Bank wheel/tilt	1751 N	grinding; tilt-forge by 1762
R20	Lead mill/Mousehole forge	1632*	lead smelting; forge by 1664; ironworks by 1717
R21	Grogram wheel	c1620*	grinding; then linked with Mousehole by 1830
	River Sheaf		
S01	Upper Smelting Mill	1617*	lead
S02	Cliff Smelting Mill	1671*	lead
S03	Totley Paper Mill/Forge	1653	paper; scythe forge in 1839
S04	Old Hay Smelting mill	1585*	lead; grinding in 1830
S05	Upper Mill (corn)	1625*	corn
S06	Nether Smelting Mill	1676	lead
S07	Totley Rolling Mill	1604-15	lead; grinding in 1750s
S08	Upper Wheel	1721*	corn; grinding by 1785
S09	Bradway Mill	1503*	corn; grinding by 1785
S10	Walk Mill	c1280	fulling;grinding by 1584
S11	Whirlow Mill/Wheel	1586*	corn; grinding in 1803
S12	Ryecroft Smelting/Corn Mill	1671*	lead; corn in 1827
S13	Abbeydale Wheel/Forge	1676-7	grinding; tilt by 1785
S14	Hudcliffe Wheel	1760*	grinding
S15	Skargell/Bartin Wheel	1631N	grinding
S16	Ecclesall/Millhouses Corn Mill	13th c*	corn
S17	Moscar Wheel	1496*	grinding
S17a	New Mill	c1200*	(?) grinding in 1622
S18	Norton Hammer	1637*	iron
S19	Smithy Wood Wheel	1721*	grinding
S20	Little London Wheel	1720*	grinding; tilt in 1789
S21	Heeley Corn Mill	16th c*	corn
S22	Blyth Wheel	1741*	grinding ?
S23	Heeley Wheel	1581*	grinding
S24	Holm Wheel/Heeley Tilt	1747*	grinding; then tilt and wire
S25	Cooper Wheel	1742	grinding; rolling in 1766
S26	Clough Wheel	1581*	grinding
S27	Marriott Wheel/Lead Mill	1732-3	grinding; white lead in 1759
S28	Pond Tilt	1732-3	tilt
S29	Pond Mill	1578*	corn
S30	Pond Forge	1716*	forge and tilt
S31	Simon/Castle Orchard Wheel	1736*	grinding
S32	Smith Wheel	1753	grinding
S33	Park Ironworks/Furnace	1784-8	iron

Appendix D.1





Map of the rivers around Sölingen, Germany. A listing of the sites is given in Appendix D.2. Smaller map shows the sites available for grinding in 1715 taken from the museum leaflet for the Balkhauser Kotten.

Appendix D.2

Names of the water-powered sites on the rivers around Sölingen in c1850, to accompany the maps in Appendix D.1. from *Schleifkotten, Mühlen und Hämmer an den Solinger Bächen.*

Bertramsmühler Bach
1 Betramsmühle
2 Petersmühle
3 Kirschbaumkotten
4 Wittekotten
5 Stammscher Hammer

Borkhauser Bach
1 Morsbachkotten

Demmeltrather Bach
1 Brochshammer

Eschbach
1 Two upper Kellershammer
2 Third Kellershammer
3 Stahlreckshammer Neuwerk
4 Die Luhnshämmer
5 Die Neuenhämmer
6 Der Kotten zum Steg
7 Die Bunger Kameralmühle

Fleussmühlebach
1 Fleussmühle
2 Schmelzhutte und Rondsorfhammer

Itter
1 Klostermühle am Bach
2 Klostermühle am Klosterteich
3 Bandesmühle
4 Hammerkotten
5 Kratzkotten
6 Bausmuhle
7 Zieleskotten
8 Linderkotten
9 Neuenkotten
10 Kirschbaumkotten
11 Trinns- or Schäferkotten
12 Mutzkotten
13 Bastianskotten
14 Ernenkotten
15 Heidberger Mühle
16 Breidenmühle
17 Schaafenkotten
18 Brucher Mühle
19 Brucher Kotten
20 Kuckesberger Kotten
21 Herderskotten

Lochbach
1 Lauterjungskotten
2 Schelder Mühle
2a Reckhammer von Hartkopf and Paffrath
3 Dorpskotten
4 Locher Hammer
5 Locher Kotten
6 Köllerskotten
7 Tiefendicker Kotten
8 Becher Hammer
9 Bechermühle
10 Schaafen Kotten
11 Furker Kotten
12 Linderskotten
13 Poschheider Mühle
14 Kuller Kotten
15 Kaimerskotten
16 Brosshauser Mühle
17 Plückerskotten

Nacker Bach
1 Ernenkotten
2 Kottermühle
3 Kotterhammer
4 Nackerkotten
5 Schaafenkotten
6 Nester Kotten
7 Cronenmühle Getreidemühle
8 Dellerkotten
9 Nöhrenkotten
10 Evertskotten
11 Schirpenbrucher Mühle
12 Olmühle
13 Haasenmühle

NummenerBach
1 Nummener Mühle
2 Ehrener Kotten
3 Ehrener Mühle
4 Bauskotten

Papiermühler Bach
1 Stadtgesmühle
2 Altenbau (Alte Papiermühle)
3 Papiermühler Kotten
4 Papiermühler Kotten
5 Papiermühler Kotten
6 Papiermühler Kotten
7 Papiermühler Kotten
8 Paplermühler Kotten
9 Papiermühler Kotten
10 Papiermühler Kotten
11 Papiermühler Kotten

Pilghauser Bach
1 Pilghauser Kotten
2 Bernskotten
3 Neuenhauser Kotten
4 Brücker Mühle

Schaberger Bach
1 Grunenberger Fruchtmühle

Schellberger Bach
1 Hohenscheider Mühle

Viehbach
1 Dahler Hammer
2 Mühlenschmidtskotten
3 Troger Kotten
4 Scharrenberger Mühle
5 Barler Kotten
6 Hasselskotten
7 Hackhauser
8 Krüdersheider

Weisberger Bach
1 Tabakmühle am Bruhl
2 Königsmühler Kotten
3 Königmühle
4 Schallbruchsmühle
5 Platzhofermühle
6 Kullenbergskotten
7 Pereskotten
8 Wusthofskotten
9 Claubergskotten
10 Schaafenkotten
11 Lauterjungskotten
12 Evertskotten
13 Johanntgesbrucher Mühle
14 Enderskotten
15 Kenkelskotten
16 Mollskotten
17 Löherkotten
18 Wittekotten
19 Struppsmühle
20 Schmidtskotten
21 Kohlenkotten
22 Ohligskotten
23 Schaafenkotten

Appendix E

Identified cutlers in the Hallamshire Hearth Tax returns, Lady Day 1672.

Attercliffe Township

sequence	Surname	First name	h	sm	notes
3	Fretwell	John	7	1	more per A Smithy
5	Carr	George	3	1	more per A Smithy
7	Laughton	Ri.	2	1	more per A Smithy
9	Marsh	Thomas	2	1	more per A Smithy
12	Sparke	John	1	1	more per A Smithy
15	Hunt	Tho.	3	1	more for A Smithy
18	Challoner	Geo.	2		
20	Challoner	Hugh	1		
21	Staniforth	John	1		Ced
27	Horobin	Tho.	1	1	more per A Smithy
30	Parkin	George	1	1	per A smithy
35	Nowburne	Rich.	2	1	forge
43	Bullas	George	1	1	per A Smithy
45	Nowburne	Wm	2		
49	Kirkson	Tho.	1		
50	Ramsker	John	2		
51	Penniston	Wm	1		Ced
52	Beighton	Jos.	1	1	per A Smithy
53	Barber	John	1	1	per A Smithy
54	Holland	John	1	1	per A Smithy
55	Holland	George	1	1	per A Smithy
57	Stacy	John	3		Ced
59	Parkin	Wm& Robt	1	1	per A Smithy
65	Knott	Wm	1	1	per A Smithy
79	Bate	John	3	1	per A Smithy
84	Carr	Stephen	4		
85	Bayes	John	1		Empty
92	Bullas	John	2	1	per A Smithy
93	Carr	Ellias	2	1	per A Smithy
95	Shay	Robt	3	1	per A Smithy
97	Selick	Wm	3		
101	Brewell	George	1		
103	Walton	Jos.	1		
108	Topcliff	Joseph	1	2	per 2 Smithyes
120	Chadwick	Sam.	1		

Brightside Bierlow

sequence	Surname	First name	h	sm	notes
1	Hoole	Robt	1	1	per a Smithy
6	Robinson	Nathl.	2	1	more a smithy
12	Shemeld	John	4		
16	Adams	James	1		

Brightside Bierlow

sequence	Surname	First name	h	sm	notes
21	Dent[on]	Wm	1	1	per A Smithy
22	Loyd	Ellias	2		
23	Nott Sen	Hugh	2		
24	Nott Jun.	Hugh	1		
25	Archdale	John	1		
26	Robinson	Robt	1	1	per A Smithy
30	Barnsley	Joshua	2		
33	Barnsley	Jos.		1	a Smithy
40	Burgon	John	1	1	per A Smithy
41	Robinson	John	2	1	per A Smithy
44	Pearson	John	2		
46	Pearson Sen.	John	2		
53	Lambe	Edw.	1	1	per A Smith
55	Hartley	Wm	1		poore
60	Marsden	John	2	1	& Forge 1 not finished
62	Swift	Robt	1	1	per A Smithy not finished
64	Thomson	Edw.	1	1	per A Smithy
68	Carr	John	1		poore
69	Hobson	Tho.	1		poore
75	Carr	Ralph	1		
78	Allen	Robt	5	1	per A Smithy
80	Mason	Wm	3	1	per A Smithy
83	Shirtcliff	Richd	2	1	per A Smithy
92	Webster	Jona.	1		& Jon Staniforth per Wicker Wheele

Dungworth

sequence	Surname	First name	h	sm	notes
51	Eyre	Edward	1		

Ecclesall Bierlow

sequence	Surname	First name	h	sm	notes
13	Stones	Willm	1		
16	Barley	John	4	1	A Smithy
55	Oakes Jun.	Wm	2	1	1 of these not finished more a Smithy
64	Firth	John	3	1	A Smithy
68	Barton	John	1	1	A Smithy
76	Thornellie	Willm	1		
77	Fox	Antho.	2	1	A Smithy
79	Barker	Chr.	1	1	A Smithy
82	Firth	Robt	1		or Robt Hall
85	Leadbeater	Roger		1	A Smithy
89	Chapman	Antho.	1		poore Ced
91	Pearson	John	2	1	A Smithy new built
92	Pearson	Tho.	2		
97	Savidge	John	3		
100	Machon	Thos	3	1	A Smithye
110	Creswick	Willm	2		
111	Creswick	George	3	1	A Smithy
112	Smeadley	Thomas	3	1	A Smithy
113	Pearson	George	5		
115	Pearson	George		1	Smithy
117	Webster	Edwd	1		not yet finished
120	Oates	Willm	7	2	for Smithys
125	Wild	Samll	3	1	A Smithy
126	Wild	Willm	2		
131	Shemild	Jos.	1		Empty
132	Bartin	Antho.	1		

Ecclesfield

sequence	Surname	First name	h	sm	notes
24	Millar	Hugh	1	1	& Smithy
30	Ragg	John	2		
37	Dey	Willm	2		
45	Lord	Jerem.	2		
47	Sutton	Robert	3		
57	Hartley	John	2		
58	Machin	Hen.	2		
59	Miller	Ralph	3		
60	Carr	Ralph	1	1	& Smithy
62	Combe	Antho.	2	1	& Smithy
63	Combe	Mathew	2		
65	Carr	Robert	3		
66	Rose	John	1		poore
67	Lord	Richd	1	1	& Smithy
68	Mason	Wm	1	1	& Smithy

Grenofrith

sequence	Surname	First name	h	sm	notes
21	Walker	John	1		
26	Smith	Willm	1		
87	Wilkinson	Tho.	2	1	& Smithy

Handsworth

sequence	Surname	First name	h	sm	notes
7	Stacy	Willm	1	1	& Smithy
12	Firth	Robert	2		
25	Fenton	Fran.	3		
39	Jeffcock	Edmond	1		
45	Jarvice	Robt	1		
49	Stacy	Mallin	4		
53	Watson	Sander	2		owner Empty

Lower Hallam

sequence	Surname	First name	h	sm	notes
1	Wild	Jos.	1		
2	Foster	John	1		
3	Foster	John	1		not yet Lyable till Michs. next
12	Webster	Willm	4	1	A Smithy 1 not finished
17	Webster	Tho.	1	1	A Smithy
21	Hoyland	Robt.	1		
22	Lassells	Martin	2		
24	Tayler	Robt	2		
26	Stevenson	Robt	1	1	his Smith
29	Fearnley	John	2		
36	Chapman	Chr.	1		
37	Garlick	Nathan	1	1	A Smithy
42	Rose	Robt	1		not Lyable yet
48	Hides	Hugh	1	1	a Smithy
52	Hides	Joseph	1	1	poore A Smithy
53	Hides	John	1		
66	Bower	Wm	1		
72	Sowerby	Malin		1	for a Wheele Chimney newly built not lyable till Michlmas

Sheffield 1st part

sequence	Surname	First name	h	sm	notes
6	Grubb	Tho.	1		poore Ced
9	Hawley	John	3		Tenants
14	Shaclock	Lyonell	2		
16	Barlow	Edw.	4	1	A Smithy
19	Stones	Willm	4	1	A Smithy

Sheffield 1st part

sequence	Surname	First name	h	sm	notes
42	Downes	Joseph	6	1	A Smithy
51	Sowerby	Malin	15	1	A Smithy
52	Downes	Robt	2		
58	Parker	John	1		
59	Pearson	George	3	1	A Smithy
62	Shemeld	Castle	4	2	2 Smithys
65	Whitley	John	5	1	A Smithy
66	Nicholls	Rob	3		
71	Downes	John	5	1	A Smithy
78	Pinder	Robt	5		
79	Ellis	Robt	5	1	A Smithy
85	Johnson	Tho.	2	1	A Smithy
87	Ripon	Rob. or Geo.	1	1	A Smithy
90	Swift	John	3		
94	Clayton	John	1	2	per Smithys
101	Staniforth	Nich.	1	1	A Smithy
102	Staniforth	John	1	1	A Smithy 1 new built not Lyable till Michls next
103	Ratcliffe	Wm	1	1	A Smithy
108	Winter	John	2	1	per Smithie
109	Carr	James	2	1	A Smithy 1 New built not Lyable till Mich.
110	Firth	John	2	1	A Smithy
112	Brealsforth	Robt	4		1 of these new erected not Lyable till Michs next
113	Brealsforth	Robt		1	A Smithy
115	Trickett	Tho.	3	1	1 demolished A Smithy
116	Cutforth Hague	Robt	2		1 demolished
117	Webster	Willm	4	1	A Smithy
118	Matheman	Tho.	3	1	A Smithy
119	Cortney	John	1	1	A Smithy poore
121	Brockfield	Jos. ,	1		
128	Turner	Rob.	1		
130	Webster	Richd	1	2	per 2 Smithys
131	Lockwood	Willm	2	1	per Smithie
132	Sutton	John	2		
133	Sutton	John	1		per his Tenant 1 not Lyable till Michs next
134	Sutton	John		1	per his Smithy
137	Whittington	Tho.	1		poore Ced
139	Pearson	John	1		
141	Gilliott	Hen.	1		
142	Melton	Tho.	1		No distress empty
143	Melton	Tho.		1	A Smithy
144	Cartreitt	John	1		poore Ced
145	Barton	Jos	1		poore
146	Scargill	George	2		
147	Cutforthhaigh	Willm	1		poore
149	Platts	Tho.	2	1	A Smithy
150	Turner	Robt	1		
153	Spooner	Tho.	4		
156	Jackson	Rich.	2		poore Ced
160	Barlay	Sam.	3		
161	Fisher	Edw.	1		poore
162	Swinden	Humph.	3		1 demold of these
163	Creswick	Tho.	2	1	& Smithy
164	Arnald	Math.	2	1	A Smithy
165	Arnall	Math.	8	1	A Smithy
170	Barlay	Tho.	2	1	A Smithy
171	Creswick	Godfrey	4	1	A Smithy
172	Creswick	Willm	2	1	A Smithy
174	Brelsforth	John	3	1	A Smithy
175	Webster	James	4		demold
176	Webster	James		1	A Smithy

Sheffield 1st part

sequence	Surname	First name	h	sm	notes
185	Hancock	Robt	1		
186	Barber	Richd	5		
188	Carr	John	4	1	A Smithy
190	Creswick	Godfrey	1		poore Ced
191	Twibell	Willm	2	1	A Smithy
195	Shirtcliffe	Will.	3	1	A Smithy
196	Shirtcliffe	Robt	1		
197	Rawson	John	1		poore
198	Rose	Tho.	1		
199	Thorpe	Willm	1		1 not one finished
202	Redford	Tho.	2	1	A Smithy
203	Roberts	Gilbert	4	1	A Smithy
206	Wigfield	John	2	1	A Smithy
212	Pearson	Tho.	2		A Smithy
215	Millns	Antho.	1		poore Ced
216	Webster	Rich.	3	2	per Smithies
217	Fox	Geo.	4	1	A Smithy
220	Steven	James		1	Smithy
224	Creswick	Tho.		2	Smiths Empty

Sheffield 2nd part

sequence	Surname	First name	h	sm	notes
2	Fox	Stephen	4		
5	Pearson	John	2		1 by next Mich.
8	Tripitt	John	6	1	A Smithy
18	Mower	Jos.	4	1	A Smithy
31	Bright	Tho.	2		poore Ced
33	Webster	Tho.	3		
37	Allen	Rob.	4		
40	Barlay	Obediah	2		
42	Townes	John	2		
43	Smith	Jos.	1		
46	Bright	John	1		
47	Newton	James	5		one next mics Lyable
48	Hobson	Fran.	1		
50	Nicholls Sen.	Robt	1		
57	Jenings Jun.	Tho.	4	1	a Smithy
59	Parkins	Tho.	3		
65	Jennings Sen.	Tho.	2	1	A Smithy
68	Ellis	Willm	2	1	a Smithy
69	Ellis	Tho.	2	1	
71	Hoyland	Wm	1		not finished
76	Chow	Nicho.	4	1	a Smithy
78	Hancock	Jos.	5		
79	Parra	Mr Rich.	4	1	a Smithy
83	France	Thos	2		
84	Dawson	Wm	1		
85	Clayton	Ralph	2		
87	Creswick	Edw.	3		not yet finished
90	Webster	Wm	3	1	per a Smithy
93	Carr	John	1		or Robt Rogers
94	Rogers	John	1		
99	Bingham	Hen.	1		poore Ced
103	Revill	Tho.	2	1	a Smithy
108	Foster	Andrew	1		a Smithy
113	Thwaites	John	1		
115	Spooner	Robt	2		& Tenant
116	Howsley	Thos		1	Smithy
117	Smeadley	George	2		empty
118	Bright	John	2		empty no distress
119	Marsh	Wm	1		

Sheffield 2nd part

sequence	Surname	First name	h	sm	notes
124	Spooner	George	1	1	a Smithy
127	Webster	John	2		late Ward or Bright Ced
129	Rockley	James	2		
131	Stevenson	John	1	1	a Smithy
132	Webster	John	5	1	a Smithy
133	Barnes	James	2		poore
139	Watson	Ellex.	1		
141	Creswick	James	4		
142	Rawson	John	3		
144	Hawley Sen	John	3	1	a Smithy
148	Elland	Wm	3		
151	Harrison	George	1	1	a Smithy
152	Ellis	Edwd	3	1	a Smithy
153	Barber	Tho.	5	1	a Smithy
158	Allen	Wm.	1		
162	Crawshaw	Wm	5	1	a Smithy
165	Heward	Tho.	3		poore Ced
171	France	John	1		
178	Nicholls	Sam.	2		
179	Rich	Richd	1		poore Ced
180	Raines[Vaines]	Isaack	2	1	late Widd. Fox a Smithy
185	Ellis	Wm	2	1	a Smithy
186	Bullas	Geo.	2		
187	Abdies	Richd	1	1	a Smithy
190	Bayes	Richd	3		&Tenants poore
191	Nutter	Antho.	1		poore
194	Stacie	Malin	1		
195	Stacie	Jos.	3	1	a Smithy
196	Shore	Geo.	2	1	a Smithy
197	Pye	Malin	2		
198	Rose	James	3	1	a Smithy poore
203	Waid	Wm	1	1	a Smithy poore
207	Cawton	Fran.	3		
208	Trickitt	Ellis	2		not finished
209	Creswick	Tho.	2		not finished
210	Berry	Tho.	1	1	a Smithy not finished
212	Treckitt	Ellis	1	2	againe per Smithies
213	Creswick Sen	Tho.	3	1	a Smithy
215	Baite	John	2		poore
216	Revill	Tho.	2	1	a Smithy
217	Bullas	Tho.	2	1	a Smithy
226	Stevenson	John	2		
230	Yates	Abyell	3	1	per Smithy
231	Webster	Jonathan	3	1	A Smithy
232	France	Tho.	3		
234	Nutt	Jos.	2	2	per Smithyes
244	Matheman	Rich.	1	1	A Smithy
245	Pell	John	1		poore
246	Key	Andrew	2	1	not finished A Smithy not finished
251	Baites	Isaack	1		poore
255	Nutt	Robt	6	1	A Smithy
257	Wilkinson	Jos.	2		
260	Hobson	Emmanuel	2	1	not finished A Smithy not finished
261	Staniforth	Robt	1	1	late Smith A Smithy
269	Stanieforth	James	7		
273	Shirtcliffe	Nichollas	1		poore Ced
274	Clayton	John	3		
278	Wilde	Godfrey	3		
291	Chapman	Geo.	1		

Southey Soke

sequence	Surname	First name	h	sm	notes
4	Revill	Antho.	1		
11	Mathewman	Nichollas	4		
13	Mathewman	Richd	3		
20	Heward	John	3		
21	Staniforth	Lawr.	4		
25	Nutt	Joseph	1	1	& Smithy
26	Milner Jun.	Rich.	2	1	& Smithy
33	Machin	John	2		
39	Staniforth	Willm	2		
43	Colley	Willm	1	1	& Smithy
44	Parker	Math.	1		
46	Milner	Nichollas	1	1	& Smithy
47	Milner	Tho.	2	1	& Smithy
48	Wilkinson	Robt	2		
55	Rawson	Willm	2		
56	Carr	George	3		
57	Twibell	James	3		
68	Wilkinson	Edwd	1		poore
70	Rymington	Wm	1		
72	Parker	George	1	1	& Smithy
73	Parkins	George	2		
74	Parkins	John	1		
85	Smith	Willm	1	1	& Smithy
87	Lockwood	Hugh	1	1	& Smithy
88	Milner	Thomas	1		

Stannington

sequence	Surname	First name	h	sm	notes
3	Lord	Edwd	1		
4	Fenton	Fran.	1	1	& Smithy
8	Mariott	George	1	1	Smithy
16	Dungworth	Wm	2		
17	Dungworth	Tho.	2		
30	Wainewright	John	1		
46	Creswick	Tho.	5		
51	Creswick	Tho.	1		not finished

Wadsley

sequence	Surname	First name	h	sm	notes
10	Swift	Hen.	1	1	& Smithy
11	Fenton	Robt	1		
14	Parkins	George	1		
15	Mathewman	Robt	2	1	& Smithy one of these not yet finished
16	Hobson	George	2		
18	Hobson	Willm	1	1	& Smithy
26	Ellor	George	1		
30	Hobson	George	3	1	& Smithy

Waldershelf

sequence	Surname	First name	h	sm	notes
7	Wainwright	John	5		
45	Mathewman	Richd	1		
71	Greaves	Edwd	4		

Westnall

sequence	Surname	First name	h	sm	notes
4	Iberson	Wm	1		
26	Morton	Tho.	1		
51	Thomson	Nicho.	1		
63	Hobson	Henry	3	1	& Smithy
74	Eyre	Edward	2		
85	Drabble	Jonathan	1	1	& Smithy

Identified scissorsmiths in the Hallamshire Hearth Tax returns, Lady Day 1672.

Attercliffe Township

sequence	Surname	First name	h	sm	notes
29	Beldom	Jos.	1	1	per A Smithy
31	Kent	Jos.	1	1	per A Smithy
34	Smith	Nich.	1	1	Ced per A Smithy
41	Hibbard	Geo.	2	2	per 2 Smithyes
63	Newbold	John	1	1	per A Smithy
72	Levick	Wm	1	2	per 2 Smithys not finished
73	Newbold	James	1	1	per A Smithy
75	Newbold	James	2	1	Ced per A Smithy
76	Greene	John	3	2	per Smithyes
77	Scargill	Tho.	1	2	per Smithys
87	Challaner	Tho.	1	2	per Smithyes
102	Swinden	George	1	1	not finished per A Smithy not finished
105	Twigg	John	1	1	per A Smithy
109	Purd	Tho.	1	2	per 2 Smithys
119	Beighton	Robt	1	1	per A Smithy
121	Smith	Wm	3	2	per Smithys

Brightside Bierlow

sequence	Surname	First name	h	sm	notes
51	Machin	Geo.	3	3	per 3 Smithies
56	Graves	John	2	2	per Smiths

Ecclesall Bierlow

sequence	Surname	First name	h	sm	notes
60	Jeffcock	John	1	1	A Smithy

Handsworth

sequence	Surname	First name	h	sm	notes
4	Challoner	Phillip	3		-
8	Cowley	Jos.& Widd.	3		-
103	Beldon	Roger	3		-

Lower Hallam

sequence	Surname	First name	h	sm	notes
39	Hollingworth	George	2	1	A Smithy
44	Bower	Thos	1		-
73	Bawmforth	Geo.	5	3	per 3 Smithys

Sheffield 1st part

sequence	Surname	First name	h	sm	notes
10	Burgon	Willm	1	2	per 2 Smythyes
11	Stanieford	John	4	2	Smythyes
18	Shower	John	4		-
39	Cooke	Tho.	2		-
86	Sims	Antho.	3	2	per Smithys
88	Crapper	Antho.	1	1	poore A Smithy
89	Gillot	Hen.	2	2	Smythyes
91	Collie	Robt	2	2	per Smithyes
92	Collie	Tho.	1	1	per his house Smithy
93	Hawke	Willm	1	2	per Smithys
95	Hobson	Jose.	3		-
100	Steven	John	2	1	A Smithy
104	Smith	Jose.	1	2	Smithys
105	Brownell jun.	Fran.	4	1	per Smithy
106	Stephen	Edw.	3	2	per 2 Smithis

Sheffield 1st part

sequence	Surname	First name	h	sm	notes
107	Brownell Sen.	Fran.	2		poore
123	Tupman	James	1		per 2 Tenants 2 poore
124	Tupman	James		2	per 2 Smithys
126	Machen	Robert	3		2 not Lyable
127	Machen	Robert		2	per Smithyes
152	Jeffcock	Tho.	2	2	per Smithys
154	Trickitt	George	1	2	per Smithys
155	Sims	Richard	7	2	per Smithys
169	Barlay	Willm	4	3	Smithis
180	Shore	Ralph	1	2	2 Smithyes
187	Schorah	Tho.	1		poore
193	Brittlebanke	Edw	2	1	A Smithy
196	Shirtcliffe	Robt.	1		
204	Scargill	Willm	3		-
205	Shower	John	5		-
207	Broadbent	Robt	1	2	per 2 Smithyes
208	Pearson	Robt	1		-
221	Arnold	Joseph	2	2	per Smithies
225	Mawer	Tho.	2	1	& Smithye

Sheffield 2nd part

sequence	Surname	First name	h	sm	notes
9	Tripitt	Robt	2	1	A Smithy
35	Collie	Willm	2		-
39	Woodhouse	Antho.	1	2	per Smithys
45	Crookes	Robt	2	2	per 2 Smithies not finished
49	Robinson	Tho.	1		-
67	Scargill	Jos.	5		-
73	Ward	Willm	1		-
80	Badger Jun.	Tho.	2	2	per Smithies
81	Thwaites	Robt	2	1	a Smithy
91	Willie	Thos.	1		
96	Twigg	Willm	1		-
98	Pearson	Thos	3	2	per Smithys
101	Greene	Willm	3		-
110	Twigge	Robt	1		-
114	Hoole	James	2		-
174	Scargill	Thos	1		-
181	Badger Sen.	Tho.	1	2	per 2 Smithies
182	Bramhald	Rowland	2	2	per Smithys
206	Leach	Wm	1	2	Smithies
211	Beck	Tho.	1	1	poore Ced
218	Badger	Edw.	2	2	2 Smithies
227	Sykes	Fran.	1	1	poore Ced a Smithy
228	Jeffcock	Geo.	1	2	per Smithyes
242	Roger	Geo.	1	2	Smithies
249	Jeffcock	John	2	2	Smithies
250	Twigg	John	1	2	per Smithies
253	Twigg	Tho.	6	4	per Smithies
264	Hartley	Wm	2	1	per A Smithy

Southey

sequence	Surname	First name	h	sm	notes
34	Addy	John	1	1	& Smithy smithey not yet finished
49	Bayley	Tho.	2		-
81	Morton	Tho.	3	1	& Smithy

Stannington

35	Brammall	Rowland	1	1	& Smithy

Identified shearsmiths, awlbladesmiths, filesmiths and scythesmiths in the Hallamshire Hearth Tax returns, Lady Day 1672.

Awlbladesmiths

area	sequence	Surname	Firstname	h	sm	notes
Brightside	85	Sands	John	1		Ced
Ecclesall	118	Mooke	Tho.		1	Smithy
Sheffield 1st part	36	Mason	Tho.	5		
Sheffield 1st part	96	Monke	Tho.	2	1	1 Demold A Smithy
Sheffield 1st part	111	Monke Sen.	Tho.	4	1	A Smithy
Sheffield 1st part	181	Stringfellow	Hen.	2	1	A Smithy
Sheffield 1st part	183	Sands	Willm	2	2	per Smithyes
Sheffield 2nd part	34	Bullas	Rich.	3	1	per a Smithy
Sheffield 2nd part	243	Simond	Charles	1		

Filesmiths

area	sequence	Surname	Firstname	h	sm	notes
Handsworth	71	Gate Cliffe	John	2		
Sheffield 1st part	47	Roberts	Samll	3		
Sheffield 1st part	54	Hancock	Samll	3	1	A Smithy
Sheffield 1st part	84	Hellifield	Edw.	3	2	these newly erected per Smithys
Sheffield 1st part	97	Hawksley	James	1	1	A Smithy 1 newly erected
Sheffield 1st part	157	Hanley	Joseph	3	1	A Smithy
Sheffield 1st part	210	Woodhouse	John	1	1	A Smithy
Sheffield 2nd part	14	Bower	John	4	1	A Smithy
Sheffield 2nd part	66	Howsley	Robt	1	1	a Smithy
Sheffield 2nd part	233	Hanley	Jos.	3	1	A Smithy

Shear- and sicklesmiths

area	sequence	Surname	Firstname	h	sm	notes
Attercliffe	38	Bamforth	Wm	3		
Attercliffe	39	Baumforth	Robt	1	1	per A Smithy
Brightside	88	Dawson	James	1		or Bamforth
Brightside	91	Burley	Wm	1		& Wicker Wheele
Handsworth	58	Atkins	John	2	1	A Smithy empty
Sheffield 1st part	41	Burley	Chr.	2	3	per Smithys
Sheffield 1st part	125	Barber	James	1		
Sheffield 1st part	129	Gillot	Mallam	1		
Sheffield 1st part	135	Barber	John	4	3	Smithys
Sheffield 1st part	148	Hide	Ralph	2	2	per Smithyes
Sheffield 2nd part	204	Webster	Robt	1		poore

Scythesmiths

area	sequence	Surname	Firstname	h	sm	notes
Ecclesall	88	Parr	Tho.	2		
Handsworth	17	Cartwright	Ralph	1	1	Per A Smithy
Handsworth	19	Holland	Jona.	1	1	& Smithy
L. Hallam	38	Holland	Enock		1	poore a Smithy
L.Hallam	41	Brownell	Thomas	2	1	& Smithy

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